Argonne National Laboratory

ARGONNE CODE CENTER:
Directory of Cooperating Installations

by

M. K. Butler, Marianne Legan,
Ethelyn Lindsay, and L. Ranzini

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ARGONNE NATIONAL LABORATORY
9700 South Cass Avenue
Argonne, Illinois 60439

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M. K. Butler, Marianne Legan,
Ethelyn Lindsay,* and L. Ranzini

Applied Mathematics Division

October 1968

*Summer Student Training Program, 1968

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PREFACE

The "cooperating installation" is an integral part of the Argonne Code Center operation. Each "cooperating installation" (e.g., AEC industrial contractor, laboratory, or university nuclear engineering department) names a representative to serve as liaison between that installation and the Center. These installation representatives serve as a source of information to the Code Center concerning programs or requests emanating from their installation and as a source of information to personnel at their installation concerning the Code Center operation and the Center library.

So that this liaison might be more effective, each cooperating installation representative was asked to complete a questionnaire on the computing facilities used or available to them. This report, documenting the results of this survey, is being issued in looseleaf form to permit additions and changes.

I. FACILITIES REPORTS

COOPERATING INSTALLATION FACILITIES REPORT

AEROJET-GENERAL CORPORATION AGC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 360/50 Processing Unit
    IBM 360/65 Processing Unit
(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    IBM 1130 16K with telecommunication link to IBM 360/50
  MEMORY UNITS:
    CORE:
      The 2065 Unit has two IBM 2365-2 Processor Storage Units, a total of 524,288 bytes of core storage.
    DRUM AND DISK STORAGE:
      1 IBM 2314 Direct Access Storage Facility
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      12 IBM 2400 Series Model 6 Magnetic Tape Units, 9-track, 1600 bpi
      3 IBM 2400 Series Model 2 Magnetic Tape Units, 7-track, 800 bpi
    UNIT RECORD EQUIPMENT:
      1 IBM 1052 Printer-Keyboard
      1 IBM 1403-N1 Printer
      1 IBM 2540 Card Read Punch
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
    OS/360, FORTRAN, IBSYS Version 13, COBOL
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Harold J. Snyder

MAILING ADDRESS: Aerojet-General Corporation
P. O. Box 77
San Ramon, California 94583

TELEPHONE: 415-837-5311 X756 DATE: July 25, 1968

COOPERATING INSTALLATION FACILITIES REPORT

AMERICAN ELECTRIC POWER SERVICE CORPORATION AEP

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 360/40 H (a)
    IBM 360/50 H (b)

(2) ASSOCIATED EQUIPMENT:
  INPUT/OUTPUT CHANNELS:
    1 IBM 6980 Selector Channel (a)
    1 IBM 6980 Selector Channel (b)
  MEMORY UNITS:
    CORE:
      262,144 bytes on each system (a) and (b)
    DRUM AND DISK STORAGE:
      4 IBM 2311-1 Disk Storage Drives on each system (a) and (b)
    DATA CELL, RACE, OR OTHER MASS STORAGE:
      1 IBM 2321-1 Data Cell Drive (b)
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
        System (a)
      1 IBM 2401-1 Magnetic Tape Unit
      1 IBM 2402-3 Magnetic Tape Unit (2 tape units)
      1 IBM 2403-1 Magnetic Tape Unit and Control
        System (b)
      1 IBM 2401-3 Magnetic Tape Unit
      1 IBM 2402-1 Magnetic Tape Unit (2 tape units)
      1 IBM 2403-1 Magnetic Tape Unit
    UNIT RECORD EQUIPMENT:
        System (a)
      1 IBM 2540-1 Card Read Punch (reads 1000 cpm and punches 300 cpm)
      1 IBM 1403-N1 Printer 1100 ℓpm
        System (b)
      1 IBM 2501-B2 Card Reader 1000 cpm
      1 IBM 1403-2 Printer 600 ℓpm
      1 IBM 1403-N1 Printer 1100 ℓpm

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
    Digitronics Dial-o-Verter D522 (b)

(4) SOFTWARE:
    OS/360 Release 13 on both systems

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: James F. Davis

MAILING ADDRESS: American Electric Power Service Corporation
2 Broadway
New York, New York 10004

TELEPHONE: 212-422-4800 X581 DATE: August 7, 1968

COOPERATING INSTALLATION FACILITIES REPORT

Section I of II

ARGONNE NATIONAL LABORATORY ANL

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
IBM 360/75

(2) ASSOCIATED EQUIPMENT:

SATELLITE OR OFF-LINE PROCESSORS:
IBM 360/50 Support Processor
(IBM Attached Support Processor System, ASP)

INPUT/OUTPUT CHANNELS:

IBM 360/50	3 Selector Channels and 1 Multiplexor Channel, transfer rate 900,000 bytes/sec on Selector; 312,000 bytes/sec on Multiplexor-burst mode
IBM 360/75	3 Selector Channels, transfer rate 1.3 million bytes/sec

MEMORY UNITS:

CORE:

IBM 360/50	524K bytes with 2 μsec storage cycle for access to 4 bytes
IBM 360/75	1024K bytes with .75 μsec storage cycle for access to 8 bytes

DRUM AND DISK STORAGE:

IBM 2301	Drum Storage Unit 4.09 million bytes; 8.6 ms access time; 1.3 million bytes/sec transfer rate; available to Model 50 and 75
2 IBM 2314	Direct Access Storage Facility 8 modules, each storing 29.17 million bytes; 88 ms average access time; 312,000 bytes/sec transfer rate; 1 facility available to Model 50 and 75; 1 available to 75 only

DATA CELL, RACE, OR OTHER MASS STORAGE:

2 IBM 2321	Data Cell Drives 400 million bytes; 550 ms average access time; transfer rate 55,000 bytes/sec; both available to Model 50 and 75
IBM 2361	Large Core Storage 2097K bytes with 8 μsec storage cycle for access to 8 bytes; available to Model 50 and 75

PERIPHERAL UNITS:

MAGNETIC TAPE UNITS:

2 IBM 2402-3	7-track 800 bpi 90,000 bytes/sec transfer rate; available to the Model 50 and 75
4 IBM 2403-3	9-track 800 bpi 90,000 bytes/sec transfer rate; available to the Model 50 and 75

UNIT RECORD EQUIPMENT:

2 IBM 1052 Printer-Keyboard; one available to Model 50, one to Model 75
(The following are available to the Model 50 only)
4 IBM 1403-N1 Printer 1100 ℓpm
2 IBM 2540 Card Read Punch 1000/300 cpm
IBM 2701 Data Adapter Set
IBM 1053 Printer
2 IBM 2741 Communication Terminals
7 Teletype Model 33 Typewriter Sets

DISPLAY AND RECORDING EQUIPMENT:

IBM 2250-3 Display Unit
8 IBM 2260 Display Station
IBM 2280 Film Recorder
See CALCOMP equipment in Section II

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

IBM 1401
2 CDC 160A

(4) SOFTWARE:

IBM System/360 Operating System
FORTRAN H
PL/I
FORTRAN G
ALGOL
Assembler Language
RPG
COBOL

(5) INSTALLATION ENVIRONMENT REPORTS:

Computer Environment Report, ANL-7408, M. K. Butler and A. L. Rago (Feb 1968).

COOPERATING INSTALLATION FACILITIES REPORT

Section II of II

ARGONNE NATIONAL LABORATORY ANL

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    CDC 3600
(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    CDC 160A Satellite under ANL SATCOPS system with 8K 12-bit words
    CDC 3682 Satellite Coupler
    CDC 160A Off-line with 8K 12-bit words
  INPUT/OUTPUT CHANNELS:
    4 CDC 3603 Standard bi-directional data channel
    CDC 3607 Special 24-bit data channel
    3 CDC 3681 Data Channel converters; 2 available to 160A Satellite; 1 available to off-line 160A
  MEMORY UNITS:
    CORE:
      2 CDC 3603 Storage Models 65K 48-bit words with 1.4 μsec/word storage cycle available to the 3600
    DRUM AND DISK STORAGE:
      CDC 828 Disk File with 4096K word capacity; 225 ms average access time over all positions; 90,000 bytes/sec transfer rate; available to 3600 and Satellite 160A
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      20 CDC 606 Magnetic Tape Transports, 556 bpi; 83,400 bytes/sec transfer rate; 16 available to the 3600 and Satellite 160A; 4 available to the off-line processor
    UNIT RECORD EQUIPMENT:
      CDC 8528 Data Communication Terminal available to off-line processor
      2 CDC 161 Typewriters, one available to Satellite, one to the off-line processor
      CDC 3692 Typewriter available to Satellite
      4 CDC 501 Line Printers, 1000 ℓpm; available to Satellite and off-line processor
      CDC 415 Card Punch 250 cpm; available to Satellite and off-line processor
      2 CDC 405 Card Reader 1200 cpm; available to Satellite and off-line processor

DISPLAY AND RECORDING EQUIPMENT:

- Data Display 80A Data Display Unit
- CALCOMP 580 Magnetic Tape Plotter 200/300 steps/sec
- CALCOMP 765 Digital Plotter (drum) 450.1687 steps/sec
- CALCOMP 780 Off-line Magnetic Tape

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

See (3) Section I

(4) SOFTWARE:

- SCOPE Operating System
- 3600 FORTRAN
- ALGOL
- COMPASS
- SORT

(5) INSTALLATION ENVIRONMENT REPORTS:

See (5) Section I

INSTALLATION REPRESENTATIVE: A. L. Rago

MAILING ADDRESS: Argonne National Laboratory
9700 South Cass Avenue
Argonne, Illinois 60439

TELEPHONE: 312-739-7711 X4245

FTS: 312-739-4245

DATE: September 23, 1968

COOPERATING INSTALLATION FACILITIES REPORT

HEADQUARTERS, U.S. ATOMIC ENERGY COMMISSION AEC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 360/50 H
    In addition, use is made of facilities at National Bureau of Standards.

(2) ASSOCIATED EQUIPMENT:
  INPUT/OUTPUT CHANNELS:
    2 Selector Channels
    1 Multiplexor Channel
  MEMORY UNITS:
    CORE:
      262,144 bytes
    DRUM AND DISK STORAGE:
      IBM 2314 Direct Access Storage Facility
    DATA CELL, RACE, OR OTHER MASS STORAGE:
      IBM 2321 Data Cell Drive
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      2-2401 Magnetic Tape Units, 9-track
      2-2401 Magnetic Tape Units, 7-track
    UNIT RECORD EQUIPMENT:
      IBM 1052 Printer-Keyboard
      IBM 2540 Card Read Punch (reads 1000 cpm; punches 300 cpm)
      2-1403 Printers 1100 ℓpm (upper and lower case print chain on one)

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
    IBM 1401 with 16,000-character core memory

(4) SOFTWARE:
    OS/360, Version 14
    COBOL E and F
    FORTRAN G
    Assembler E and F

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Laurence Kopp

MAILING ADDRESS: U.S. Atomic Energy Commission
Division of Reactor Standards
Systems and Performance Branch
Washington, D.C. 20545

TELEPHONE: 301-973-7388

DATE: February 16, 1968

COOPERATING INSTALLATION FACILITIES REPORT

ATOMIC POWER DEVELOPMENT ASSOCIATES, INC. APDA

COMPUTER FACILITIES

(1) MAIN PROCESSOR:
   IBM 1130
   Card I/O with synchronous communications adapter and 201-A4 Data Set used for teleprocessing with McDonnell Douglas Automation Center's IBM 360/50/75.

(2) ASSOCIATED EQUIPMENT:
 MEMORY UNITS:
   CORE:
     8,000 word 16-bit core with 3.2 μsec cycle time transmission rate 2,000 bits/sec
   DRUM AND DISK STORAGE:
     IBM 2315 Disk Cartridge 512,000 words
 PERIPHERAL UNITS:
   UNIT RECORD EQUIPMENT:
     2 IBM 029 Card Punch
     IBM 059 Card Verifier

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
   Use is made of the following facilities:
   ANL CDC 3600
   ORNL IBM 7090
   Minneapolis CDC 3600
   Matrix Corp., New York City, IBM 7094 and IBM 360/65

(4) SOFTWARE:
   IBM 1130 Basic Fortran IV

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Eugene R. Volk

MAILING ADDRESS: Atomic Power Development Associates, Inc.
1911 First Street
Detroit, Michigan 48226

TELEPHONE: 313-962-9510 X374 DATE: February 12, 1968

COOPERATING INSTALLATION FACILITIES REPORT

ATOMICS INTERNATIONAL AI

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 360/50 H
(2) ASSOCIATED EQUIPMENT:
    SATELLITE OR OFF-LINE PROCESSORS:
        IBM 360/30
    INPUT/OUTPUT CHANNELS:
        2 Channels
    MEMORY UNITS:
        CORE:
            262,144 bytes
        DRUM AND DISK STORAGE:
            6 IBM 2311 Disk Storage Drives
    PERIPHERAL UNITS:
        MAGNETIC TAPE UNITS:
            4 IBM 2400 Series Model 2 Magnetic Tape Units, 7-track
            4 IBM 2400 Magnetic Tape Units, 9-track
        UNIT RECORD EQUIPMENT:
            IBM 2540 Card Read Punch reads 1000 cpm; punches 300 cpm
            IBM 1403 Printer 1100 ℓpm
            Paper Tape
    DISPLAY AND RECORDING EQUIPMENT:
        SC 4020
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
    OS/360, PCP/MFT plus HASP, NAA Library
(5) INSTALLATION ENVIRONMENT REPORTS:
    R. A. Blaine, AI Environment Report, on file at ACC

INSTALLATION REPRESENTATIVE: R. A. Blaine

MAILING ADDRESS: Atomics International
P. O. Box 309
Canoga Park, California

TELEPHONE: 213-341-1000 X1741

DATE: April 25, 1968

COOPERATING INSTALLATION FACILITIES REPORT

AUSTRALIAN ATOMIC ENERGY COMMISSION AAEC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 360/50 H

(2) ASSOCIATED EQUIPMENT:
    SATELLITE OR OFF-LINE PROCESSORS:
        Digital Equipment PDP-8; off-line card listing facility with eventual linkage to main processor.
    INPUT/OUTPUT CHANNELS:
        2 overlapped Selector Channels
        1 Multiplexor Channel
    MEMORY UNITS:
        CORE:
            262,144 bytes, 2 μsec access time for 4 bytes; 0.5 μsec cycle time
        DRUM AND DISK STORAGE:
            4 IBM 2311 Disk Storage Drives; each with capacity of 7,250,000 bytes; 75 ms average access time; and 156,000 bytes/sec transmission rate.
    PERIPHERAL UNITS:
        MAGNETIC TAPE UNITS:
            1 IBM 2401-2 Magnetic Tape Unit
            1 IBM 2403-2 Magnetic Tape Unit and Control 800 bpi density, 9-track, and 60,000 bytes/sec transfer rate.
        UNIT RECORD EQUIPMENT:
            1 IBM 2540 Card Read Punch 1000 cpm in, 300 cpm out
            1 IBM 1403-N1 Printer 1100 ℓpm
            1 IBM 2671 Paper Tape Reader 1000 cps
            1 IBM 1052 Printer-Keyboard
            Analex Series 5 Printer 300 ℓpm
            Burroughs Card Reader 200 cpm
            attached to PDP-8

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
        1 PDP-8
        1 PDP-7
        used independently for experiments

(4) SOFTWARE:
        FORTRAN H, G, E
        COBOL F
        Assembler F, PL/I
        ALGOL
        Linkage Editor E
        OS/360 Release 14

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: B. McGregor

MAILING ADDRESS: Australian Atomic Energy Commission
Physics Division
Research Establishment
Private Mail Bag
Sutherland 2232 N.S.W., Australia

DATE: April 18, 1968

COOPERATING INSTALLATION FACILITIES REPORT

Section I of II

THE BABCOCK & WILCOX COMPANY
NUCLEAR GENERATION DEPARTMENT

BW

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    Philco, Model 211
(2) ASSOCIATED EQUIPMENT:
  INPUT/OUTPUT CHANNELS:
    2
  MEMORY UNITS:
    CORE:
      32K, 48-bit words, 8 μsec cycle time
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      17 Philco Model 234 Magnetic Tape Units 1 in. Tape, 120 in. per sec, 90 KC transfer rate, 375 bpi (13 channels)
    UNIT RECORD EQUIPMENT:
      1 Philco Model 258 Card Reader, 2000 cpm
      1 Philco Model 280 Buffer Controller
      1 Philco Model 256 Line Printer, 900 ℓpm
      1 Philco Model 254 Printer Controller
      1 Philco Model 265 Card Punch, 100 cpm
      1 Philco 259 Punch Card Controller
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
    1 Control Data 8130 Remote Terminal to CDC-6600 System
    Teletype terminals to G.E. & Philco-Ford Time-Sharing Systems
    1 Control Data 6600 System on order (See Section II of this report)
(4) SOFTWARE:
    Philco-Ford FORTRAN IV Standard Development Language, KAPL-BKS Standard Operating System; BAPL-BKS and Philco 32 and 8K SYS also used
(5) INSTALLATION ENVIRONMENT REPORTS:
    Various BAW-TM's

COOPERATING INSTALLATION FACILITIES REPORT

Section II of II

THE BABCOCK & WILCOX COMPANY
NUCLEAR GENERATION DEPARTMENT

BW

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
CDC 6600 (Model 6614 CPU) Installation date, November 1968

(2) ASSOCIATED EQUIPMENT:
SATELLITE OR OFF-LINE PROCESSORS:
CDC 1700 For hybrid applications and interface between CDC-6600 and analog systems. Standard linkage components

INPUT/OUTPUT CHANNELS:
12 I/O Channels

MEMORY UNITS:
CORE:
65K, 60-bit words plus 10 banks of 4096 words of 12-bit size, all 1 μsec cycle time.

DRUM AND DISK STORAGE:
2 CDC 6638 Disk System
1 CDC 6603 Disk System
1 CDC 853 Disk Storage Drive on 1700 System

PERIPHERAL UNITS:
MAGNETIC TAPE UNITS:
4 CDC Model 607 Magnetic Tape Units (150 in. per sec, 200, 556, and 800 bpi, 30, 85.5 and 120 KC transfer rates)

UNIT RECORD EQUIPMENT
CDC 6600 System
1 CDC Model 405 Card Reader 1200 cpm
2 CDC Model 501 Printers 1000 ℓpm
1 CDC Model 415 Card Punch 250 cpm
CDC 1700 System
1711 Teletypewriter
1721 Paper Tape Reader 400 cps
1723 Paper Tape Punch 200 cps

DISPLAY AND RECORDING EQUIPMENT:
No display equipment except CDC Model 6612 used for system monitoring

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
Philco Model 211 System (See Section I of this report)

(4) SOFTWARE:
New development in CDC FORTRAN 2.3 (FORTRAN IV Compatible Operating System SCOPE 3.1)

(5) INSTALLATION ENVIRONMENT REPORTS:
Not yet designated.

INSTALLATION REPRESENTATIVE: W. R. Worley

MAILING ADDRESS: The Babock & Wilcox Company
Computer Services Section
Nuclear Power Generation Department
Power Generation Division
P. O. Box 1260
Lynchburg, Virginia 24505

TELEPHONE: 703-846-7361 X839 DATE: July 18, 1968

COOPERATING INSTALLATION FACILITIES REPORT

BATTELLE MEMORIAL INSTITUTE, COLUMBUS LABORATORIES BCL

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    CDC 6400
(2) ASSOCIATED EQUIPMENT:
    SATELLITE OR OFF-LINE PROCESSORS:
        On-line input-output
    INPUT/OUTPUT CHANNELS:
        13 Channels
    MEMORY UNITS:
        CORE:
            64K 60-bit words, 1 μsec
            250K 60-bit words, Extended Core Storage will be delivered January 1969.
        DRUM AND DISK STORAGE:
            CDC 6638 Disk Systems with 160 million 6-bit characters
            (Will replace the present 70 million 6603 Disk System June 1)
            4 CDC Disk Pack Transports - 30 million characters
    PERIPHERAL UNITS:
        MAGNETIC TAPE UNITS:
            6 CDC 604 Magnetic Tape Units, 75 cps, 200, 556, or 800 bpi
            1 Channel, 60 KC
        UNIT RECORD EQUIPMENT:
            2 CDC 405 Card Reader 1200 cpm
            2 CDC 415 Card Punch 250 cpm
            2 CDC 501 Line Printer 1000 ℓpm
            1 CDC 505 Line Printer 500 ℓpm
            1 CDC 3691 Paper Tape Read Punch Unit 350/120 cps
    DISPLAY AND RECORDING EQUIPMENT:
        1 CALCOMP 565 On-Line Plotter
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
        Electronic Associates Analog 231 R
(4) SOFTWARE:
        FORTRAN IV   MIMIC
        SCOPE 3.1
        SIMSCRIPT AND COBOL in a few months.
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Dr. Ricardo Artigas

MAILING ADDRESS: Battelle Memorial Institute
Columbus Laboratories
505 King Avenue
Columbus, Ohio 43201

TELEPHONE: 614-299-3151 X840 DATE: February 22, 1968

COOPERATING INSTALLATION FACILITIES REPORT

BNW

BATTELLE MEMORIAL INSTITUTE,
PACIFIC NORTHWEST LABORATORY

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
IBM 7090
UNIVAC 1108
This installation uses the facilities of Computer Sciences Corporation, Northwest Operations, CSCN.

INSTALLATION REPRESENTATIVE: J. L. Carter

MAILING ADDRESS: Battelle-Northwest
Pacific Northwest Laboratory
P. O. Box 999
Richland, Washington 99352

TELEPHONE: 509-942-1111 X6-4473

DATE: July 15, 1968

FTS: 20-89-64

COOPERATING INSTALLATION FACILITIES REPORT

BECHTEL CORPORATION BC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
GE 635

(2) ASSOCIATED EQUIPMENT:
SATELLITE OR OFF-LINE PROCESSORS:
GE DATANET 30 Communications Processor
INPUT/OUTPUT CHANNELS:
5 high-speed channels
6 low-speed channels
MEMORY UNITS:
CORE:
96K, 1 μsec 36-bit word core memory
DRUM AND DISK STORAGE:

	Transfer Rate	Storage	Average Access Time
Drum-MDS 200	370,000 char/sec	7 million char	17 ms
Disc-DSU 200	60,000 char/sec	23 million char	200 ms

PERIPHERAL UNITS:
MAGNETIC TAPE UNITS:
9 tapes, 120 KC, density 800 bpi, 2 channels
UNIT RECORD EQUIPMENT:
1 Card Reader 900 cpm
1 Card Punch 300 cpm
2 Printers 1200 ℓpm
1 Console Typewriter
12 Teletype Lines 110 bps
2 200 bps voice-grade lines

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:
FORTRAN IV, COBOL
GECOS III Operating System

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: R. L. Brunnenmeyer

MAILING ADDRESS: Bechtel Corporation
50 Beale Street
San Francisco, California 94119

TELEPHONE: 415-433-4567 X3629

DATE: July 18, 1968

COOPERATING INSTALLATION FACILITIES REPORT

BETTIS ATOMIC POWER LABORATORY BAPL

COMPUTER FACILITIES:

- (1) MAIN PROCESSOR:
  - 2 CDC 6600
  - "Each," as used below means attached to one 6600 processor; "Both" means shared by, or accessible by, the two 6600s.
- (2) ASSOCIATED EQUIPMENT:
  - INPUT/OUTPUT CHANNELS:
    - Standard 12 (each)
  - MEMORY UNITS:
    - CORE:
      - Central 64K 60-bit each
      - Extended: 500K 60-bit both
    - DRUM AND DISK STORAGE:
      - 4 CDC 6638 Disk Systems - both
      - 1 CDC 6603 Disk Systems - each
    - DATA CELL, RACE, OR OTHER MASS STORAGE:
      - 2 IBM 2321 Data Cell Drive - both
  - PERIPHERAL UNITS:
    - MAGNETIC TAPE UNITS:
      - 8 CDC 607 Magnetic Tape Units - both (thus a 2 x 8 controller)
    - UNIT RECORD EQUIPMENT:
      - 1 CDC 405 Card Reader - each
      - 1 CDC 405 Card Reader - both, switchable } Total 3 CDC 405 Card Readers
      - 2 CDC 415 Card Punch - both
      - 1 CDC 501 Line Printer - each
      - 2 CDC 501 Line Printer - both } Total 4 CDC 501 Printers
  - DISPLAY AND RECORDING EQUIPMENT:
    - 1 CDC 280 Microfilm Recorder, both switchable
- (3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
- (4) SOFTWARE:
  - SCOPE 3.1
  - FORTRAN 2.0 and 2.3
- (5) INSTALLATION ENVIRONMENT REPORTS:
  - WAPD-TM-668, C. J. Pfeifer, partially obsoleted by our conversion from SCOPE 2.0 to 3.1, on file at ACC

INSTALLATION REPRESENTATIVE: Dr. B. Mount

MAILING ADDRESS: Bettis Atomic Power Laboratory
Box 79
W. Mifflin, Pennsylvania 15122

TELEPHONE: 412-462-5000 X365/470

FTS: 412-462-0365
-0470

DATE: July 12, 1968

COOPERATING INSTALLATION FACILITIES REPORT

BLACK & VEATCH CONSULTING ENGINEERS B&V

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
  IBM 360/30
  Equipment shared with local research institute.

(2) ASSOCIATED EQUIPMENT:
  MEMORY UNITS:
    CORE:
      65,536 bytes storage, 1.5 μsec access time
    DRUM AND DISK STORAGE:
      2 IBM 2311 Disk Storage Drive
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      4 IBM 2400 Series Magnetic Tape Units, 800 bpi density
    UNIT RECORD EQUIPMENT:
      IBM 2540 Card Read Punch (reads at 1000 cpm, punches at 300 cpm)
      IBM 1403 Printer 1100 ℓpm

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:
  DOS
  FORTRAN
  COBOL
  PL/I
  BAL
  RPG

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Donald L. Cahalan

MAILING ADDRESS: Black and Veatch Consulting Engineers
1500 Meadow Lake Parkway
P. O. Box 8405
Kansas City, Missouri 64114

TELEPHONE: 816-363-1402 X301

DATE: February 22, 1968

COOPERATING INSTALLATION FACILITIES REPORT

Section I of V

BOEING HUNTSVILLE SIMULATION CENTER

BHSC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
- IBM 360/30

(2) ASSOCIATED EQUIPMENT:
- INPUT/OUTPUT CHANNELS:
  - Multiplexor Channel
  - Selector Channel
- MEMORY UNITS:
  - CORE:
    - 1 IBM 2311 Disk Storage Drive
    - 1 IBM 2841 Storage Control
- PERIPHERAL UNITS:
  - MAGNETIC TAPE UNITS:
    - 2 IBM 2400 Series Magnetic Tape Units, 7-track, 800 bpi density
    - 2 IBM 2400 Series Magnetic Tape Units, 9-track, 800 bpi density
    - 1 IBM 2803 Tape Control Unit
  - UNIT RECORD EQUIPMENT:
    - 1 IBM 1052-7 Printer-Keyboard 15.5 char/sec nominal; 12.5 in. max printing line
    - 1 IBM 2701 Data Adapter Unit (SDA-I) 5100 cps
    - 1 IBM 2821-5 Control Unit
    - 1 IBM 2540 Card Read Punch (1000 cpm, 300 cpm)
    - 2 IBM 1403-N1 Printers (1100 ℓpm)

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:
- EMFT Release 13
- EMFT Graphics

(5) INSTALLATION ENVIRONMENT REPORTS:

COOPERATING INSTALLATION FACILITIES REPORT

Section II of V

BOEING HUNTSVILLE SIMULATION CENTER BHSC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 360/44 (used in conjunction with (4) Applied Dynamics, Inc., ADI-256 Analog computers to provide hybrid computer capability)

(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    Analog Processors:
      9 Brush Corporation Time History Recorders
      6 E.A.I. X-Y plotters
  INPUT/OUTPUT CHANNELS:
    3 Channels
  MEMORY UNITS:
    CORE:
      The IBM 360/44 has 256K bytes, 1 μsec access, and 0.25 μsec register speed.
    DRUM AND DISK STORAGE:
      2 IBM 2315 Disk Cartridges
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      4 IBM 2401 Magnetic Tape Units with 800 bpi density
    UNIT RECORD EQUIPMENT:
      1 IBM 1052 Printer-Keyboard
      1 IBM 2540 Card Read Punch
      1 IBM 1403-N1 Printer
      1 IBM 1053 Printer
      4 IBM 2701 Data Adapter Units (Interface 1 with ADI 256's is (2) 2701's controlling 30 DAC lines, 25 ADC lines, 100 KC timer, 128 discretes; Interface 2 with ADI-256's is (2) 2701's controlling 30 DAC lines, 25 ADC lines, 100 KC timer, 64 discretes, 68 Analog setup lines)
  DISPLAY AND RECORDING EQUIPMENT:
    2 IBM 2260 Display Stations

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:
    EMFT Release 13
    EMFT Graphics

(5) INSTALLATION ENVIRONMENT REPORTS:

COOPERATING INSTALLATION FACILITIES REPORT

Section III of V

BOEING HUNTSVILLE SIMULATION CENTER BHSC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
  2 IBM 360/65 (a) and (b)
(2) ASSOCIATED EQUIPMENT:
  INPUT/OUTPUT CHANNELS:
    IBM 2870 Multiplexor Channel processor (b) only
    IBM 2860 Selector Channel (a) 3 channels, (b) 2 channels
  MEMORY UNITS:
    CORE:
      512K bytes each of 750 ns access, 200 ns register speed
    DRUM AND DISK STORAGE:
      1 IBM 2314 Direct Access Storage Facility (a) and (b)
      1 IBM 2301 Drum Storage (b)
      1 IBM 2820 Storage Control Unit (b)
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      24 IBM 2400 Series Magnetic Tape Units with 800 bpi density on (a)
      8 IBM 2401 Magnetic Tape Units with 800 bpi density on (b)
      3 IBM 2803 Tape Control Units (a)
      1 IBM 2803 Tape Control Unit (b)
    UNIT RECORD EQUIPMENT:
      1 IBM 1052 Printer-Keyboard (a) and (b)
      3 IBM 1403-N1 Printers 1 on processor (a) 2 on processor (b)
      1 IBM 2821 Control Unit per processor
      1 IBM 2540 Card Read Punch per processor
      1 IBM Transmission Control Unit (b)
  DISPLAY AND RECORDING EQUIPMENT:
    1 IBM 2840 Display Control (b only)
    2 IBM 2250 Display Unit (b only)
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
    EMFT Release 13
    EMFT Graphics
(5) INSTALLATION ENVIRONMENT REPORTS:

COOPERATING INSTALLATION FACILITIES REPORT

Section IV of V

BOEING HUNTSVILLE SIMULATION CENTER BHSC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    2 IBM 360/67
(2) ASSOCIATED EQUIPMENT:
    INPUT/OUTPUT CHANNELS:
        IBM 2870 Multiplexor Channel per processor
        IBM 2860-3 Selector Channel per processor
        IBM 2846 Channel Controller per processor
    MEMORY UNITS:
        CORE:
            1 million bytes of 750 ns access, and 200 ns register speed
        DRUM AND DISK STORAGE:
            1 IBM 2301 Drum Storage per processor
            1 IBM 2820 Storage Control Unit per processor
            1 IBM 2314 Direct Access Storage Facility per processor
            1 IBM 2314 Direct Access Storage Facility shared
    PERIPHERAL UNITS:
        MAGNETIC TAPE UNITS:
            4 IBM 2400 Series Magnetic Tape Units, 7-track, 800 bpi, per processor
            4 IBM 2400 Series Magnetic Tape Units, 9-track, 800 bpi, per processor
            1 IBM 2803 Tape Control Unit per processor
        UNIT RECORD EQUIPMENT:
            1 IBM 1052 Printer-Keyboard per processor
            1 IBM 2821-5 Control Unit per processor
            1 IBM 2540 Card Read Punch per processor (1000 cpm/300 cpm)
            2 IBM 1403-N1 Printer per processor (1100 cpm)
            1 IBM 2701 Data Adapter Unit (a) 5100 cps (SDA-I)
            1 IBM 2702 Transmission Control Unit (b) 5100 cps
    DISPLAY AND RECORDING EQUIPMENT:
        1 Xerox Copier (a)
        1 IBM 2848 Display Control Unit (b)
        8 IBM 2260 Display Stations (b)
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
        EMFT Release 13
        EMFT Graphics
(5) INSTALLATION ENVIRONMENT REPORTS:

COOPERATING INSTALLATION FACILITIES REPORT

Section V of V

BOEING HUNTSVILLE SIMULATION CENTER BHSC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    (a) IBM 360/20 reads and punches cards, makes listings, interprets cards
    (b) IBM 1131/2250-4 (satellite graphic system)
    (c) CDC 8090
  MEMORY UNITS:
    CORE:
      16K bytes (b)
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      IBM 2400 Series Magnetic Tape Unit, 7-track (c)
    UNIT RECORD EQUIPMENT:
      IBM 2203 Printer (a)
      IBM 2540 Card Read Punch (a)
      IBM 1132 Printer (b)
      IBM 1052 Printer-Keyboard (c)
      CDC 519 Page Reader (c)
      IBM 2560 Multifunction Card Machine (a)
  DISPLAY AND RECORDING EQUIPMENT:
    IBM 2250 Display Unit (b)

INSTALLATION REPRESENTATIVE: James P. Wilson

MAILING ADDRESS: The Boeing Company
Mail Stop JD - 14
Huntsville, Alabama 35807

TELEPHONE: 205-895-0546 XN/A DATE: April 1968

CCSA: 425-0546

COOPERATING INSTALLATION FACILITIES REPORT

Section I of II

BROOKHAVEN NATIONAL LABORATORY BNL

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    2 IBM 7094, Model 1
(2) ASSOCIATED EQUIPMENT:
    SATELLITE OR OFF-LINE PROCESSORS:
        IBM 1401 Model C, 4K-character memory
    INPUT/OUTPUT CHANNELS:
        2 Channels
    MEMORY UNITS:
        CORE:
            32K memory, each processor
    PERIPHERAL UNITS:
        MAGNETIC TAPE UNITS:
            10 IBM 729 Model 6 Magnetic Tape Units, 7-track, 200, 556, or 800 bpi density, 120 in./sec speed, 90 KC transmission rate.
        UNIT RECORD EQUIPMENT:
            1 On-Line Printer
            1 Card Reader
            Off-Line printing and card punching accomplished with the IBM 1401.
    DISPLAY AND RECORDING EQUIPMENT:
        IBM 740 CRT Recorder and Display
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
    BOS (FMS with IBSYS as subset)
(5) INSTALLATION ENVIRONMENT REPORTS:

COOPERATING INSTALLATION FACILITIES REPORT

Section II of II

BROOKHAVEN NATIONAL LABORATORY BNL

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
  2 CDC 6600 Model 6614

(2) ASSOCIATED EQUIPMENT:
  INPUT/OUTPUT CHANNELS:
    12 Channels (standard for CDC 6600)
  MEMORY UNITS:
    CORE:
      65K 60-bit words each processor
      One million word Extended Core Storage, to be shared between both 6600 processors due July 1968. Access time is 3.2 microseconds for first word. Transmission rate of 11 ns/word.
    DRUM AND DISK STORAGE:
      2 CDC 6603 Disk Systems per processor
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      12 CDC 607 Magnetic Tape Units, switchable between main processors to a maximum of 8 per machine, two channels access to each tape drive. These are 7-track drives having 200, 556 or 800 bpi density. Speed is 150 in./sec and transmission rates are 30, 831/3 and 120 KC.
    UNIT RECORD EQUIPMENT:
      System (a) has 2 CDC 405 Card Reader and (b) has 1 CDC 405 Card Reader; each system has 1 CDC 415 Card Punch and 2 CDC 501 Line Printers. Brookhaven Communications Network to be installed in the summer of 1968.
  DISPLAY AND RECORDING EQUIPMENT:
    No on-line equipment except 6612 Console Display.
    Off-line equipment is CALCOMP 835 Microfilm Recorder and Mechanical Plotter.

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
  CDC 924 with 16K memory of 24-bit words

(4) SOFTWARE:
  SCOPE 2.0 with standard FORTRAN Compiler
  Expect to be using SCOPE 3.1 (modified for ECS) by Summer 1968.

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Arnold L. Aronson

MAILING ADDRESS: Brookhaven National Laboratory
Bldg. 197
Upton, New York 11973

TELEPHONE: 516-924-6262 X7494 DATE: February 19, 1968

FTS: 516-924-7494

COOPERATING INSTALLATION FACILITIES REPORT

BURNS AND ROE COMPUTER CENTER BRCC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
  IBM 360/44
(2) ASSOCIATED EQUIPMENT:
  INPUT/OUTPUT CHANNELS:
    1 Multiplexor
  MEMORY UNITS:
    CORE:
      64K bytes, 1 μsec access time
    DRUM AND DISK STORAGE:
      IBM 2311 Disk Storage Drives Transmission rate 156,000 bytes/sec.
      Total capacity 14,500,000 bytes.
  PERIPHERAL UNITS:
    UNIT RECORD EQUIPMENT:
      IBM 2501 Card Reader - 600 cpm
      IBM 2520 Card Punch - 300 cpm
      IBM 1443 Printer - 240 ℓpm 120 print positions
      IBM 1052 Printer-Keyboard
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION
(4) SOFTWARE:
    FORTRAN IV - G level, PS Operating System - Version 3
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Michael Zizza

MAILING ADDRESS: Burns and Roe, Inc.
320 Fulton Avenue
Hempstead, New York 11550

TELEPHONE: 516-483-8000 X226 DATE: February 19, 1968

COOPERATING INSTALLATION FACILITIES REPORT

CANADIAN GENERAL ELECTRIC COMPANY,
PETERBOROUGH, ONTARIO

PTBO

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    GE 425
(2) ASSOCIATED EQUIPMENT:
  INPUT/OUTPUT CHANNELS:
    8 Channels
  MEMORY UNITS:
    CORE:
      32K, 24-bit words, 5.1 μsec access time
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      6 Magnetic Tape Units, 15,000 cps, 556 bpi
    UNIT RECORD EQUIPMENT:
      1 Card Reader 900 cpm
      1 Card Punch 100 cpm
      1 Printer 1200 ℓpm
      1 Paper Tape Reader and Punch
      1 Typewriter
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
    Time Sharing Terminals to the GE 265 System in Toronto
(4) SOFTWARE:
    GE 425 FORTRAN IV, COBOL, Macro Assembly Program, SORT, MERGE and REPORT GENERATOR
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Lewis G. Roberts

MAILING ADDRESS: Canadian General Electric
Computations, Nuclear Systems Section
Peterborough, Ontario
Canada

TELEPHONE: 705-742-7711 X2187

DATE: July 24, 1968

COOPERATING INSTALLATION FACILITIES REPORT

Section I of II

CHALK RIVER NUCLEAR LABORATORIES CRNL

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
CDC G20 (nee' Bendix)
With special equipment coupler to communicate with CDC 3100 I/O channel

(2) ASSOCIATED EQUIPMENT:
SATELLITE OR OFF-LINE PROCESSORS:
CDC 3100 operates as associated support processor to G20
INPUT/OUTPUT CHANNELS:
4
MEMORY UNITS:
CORE:
G20: 32K 32-bit words; 6 μsec access time
CDC 3100: 16K 24-bit words; 2 μsec access time
DRUM AND DISK STORAGE:
CDC 3100: 1 CDC 861 Drum subsystem; 4 x 10^6 characters, 17 millisecond average access time, 2 x 10^6 characters per second maximum transfer rate

PERIPHERAL UNITS:
MAGNETIC TAPE UNITS:
G20: 3 MT-10 Magnetic Tape Units 120 KC; 1 in. tape; 10 channel; 1100 characters per inch.
CDC 3100: 4 CDC 604 Magnetic Tape Units 60 KC; 0.5 in. tape 7 channel; 800 bpi
UNIT RECORD EQUIPMENT:
G20: 1 IBM 088 Collator used as card reader, LP-12 Line Printer
CDC 3100: 1 CDC 405 Card Reader 1200 cpm (80 col.)
1 CDC 501 Line Printer 1000 ℓpm, 64 char. 136 col.
1 CDC 415 Card Punch 250 cpm (80 col.)
1 CDC 3694 Paper Tape Reader Punch
DISPLAY AND RECORDING EQUIPMENT:
2 CALCOMP 565 Plotters
1 DEC-338 and PDP-8 system can connect to the CDC 3100; system under development

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
There are PDP, Honeywell, Pacific Data Systems, and Data Machines Inc. computers located at experiments at the three AECL sites: CRNL, WNRE, AND CPD.

(4) SOFTWARE:

CDC 3100 - COMPASS, 3100 SCOPE used only for COMPASS assembly, SIMPER, CRNL-written executive system for CDC 3100 used to operate the G20 - 3100 dual computer system.

G20 - SNAP, CDC assembly language used for systems programming, and, very rarely, for user programs. APEX IV CRNL-written ALGOL-like language compiler employed by almost all system users. The system does not have a FORTRAN compiler.

(5) INSTALLATION ENVIRONMENT REPORTS:

COOPERATING INSTALLATION FACILITIES REPORT

Section II of II

CHALK RIVER NUCLEAR LABORATORIES CRNL

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    1 CDC 6600 Installation date January 1969.

(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    CDC 8090 communicates via voice-grade lines to central facility and to CDC Datacentre, Ottawa.
  MEMORY UNITS:
    CORE:
      CDC 6600: 65K of 60-bit words
      CDC 8090: 8K of 12-bit words
    DRUM AND DISK STORAGE:
      5 CDC 854 Disk Drives
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      CDC 6600: 4 CDC 604 Magnetic Tape Units
      CDC 8090: 1 CDC 604 Magnetic Tape Unit
    UNIT RECORD EQUIPMENT:

CDC 6600	1 CDC 405 Card Reader
	1 CDC 415 Card Punch
	1 CDC 501 Line Printers
	1 CDC 6612 Display Console and Typewriter
CDC 8090	1 CDC 405 Card Reader
	1 CDC 501 Line Printers

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Gilbert J. Phillips

MAILING ADDRESS: Chalk River Nuclear Laboratories
Applied Mathematics Branch
Advanced Projects and Reactor Physics Division
Chalk River, Ontario, Canada

TELEPHONE: 613-687-5581 X671 DATE: July 15, 1968

COOPERATING INSTALLATION FACILITIES REPORT

COMBUSTION ENGINEERING, INC., NUCLEAR DIVISION CEND

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
  2 IBM 360/65 (a) and (b)
  1 IBM 360/50 (c)
(2) ASSOCIATED EQUIPMENT:
  INPUT/OUTPUT CHANNELS:
    2 Selector Channels each IBM 360/65
    2 Selector and Multiplexor Channels IBM 360/50
  MEMORY UNITS:
    CORE:
      256K bytes of core each processor
    DRUM AND DISK STORAGE:
      3 IBM 2314 Direct Access Storage Facility (See Fig. 1)
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      24 IBM 2400 Series Magnetic Tape Units
        4 7-track
        20 9-track (See Fig. 1)
    UNIT RECORD EQUIPMENT:
      3 IBM 1403-N1 Printer
      2 IBM 2540 Card Read Punch
      4 IBM 2701 Data Adapter Units
      1 IBM 2702 Transmission Control Unit
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
  OS/360 FORTRAN Level H
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: S. Pacino

MAILING ADDRESS: Combustion Engineering, Inc.
Nuclear Division
P.O. Box 500
Windsor, Connecticut 06095

TELEPHONE: 203-688-1911 X543/2823 DATE: February 27, 1968

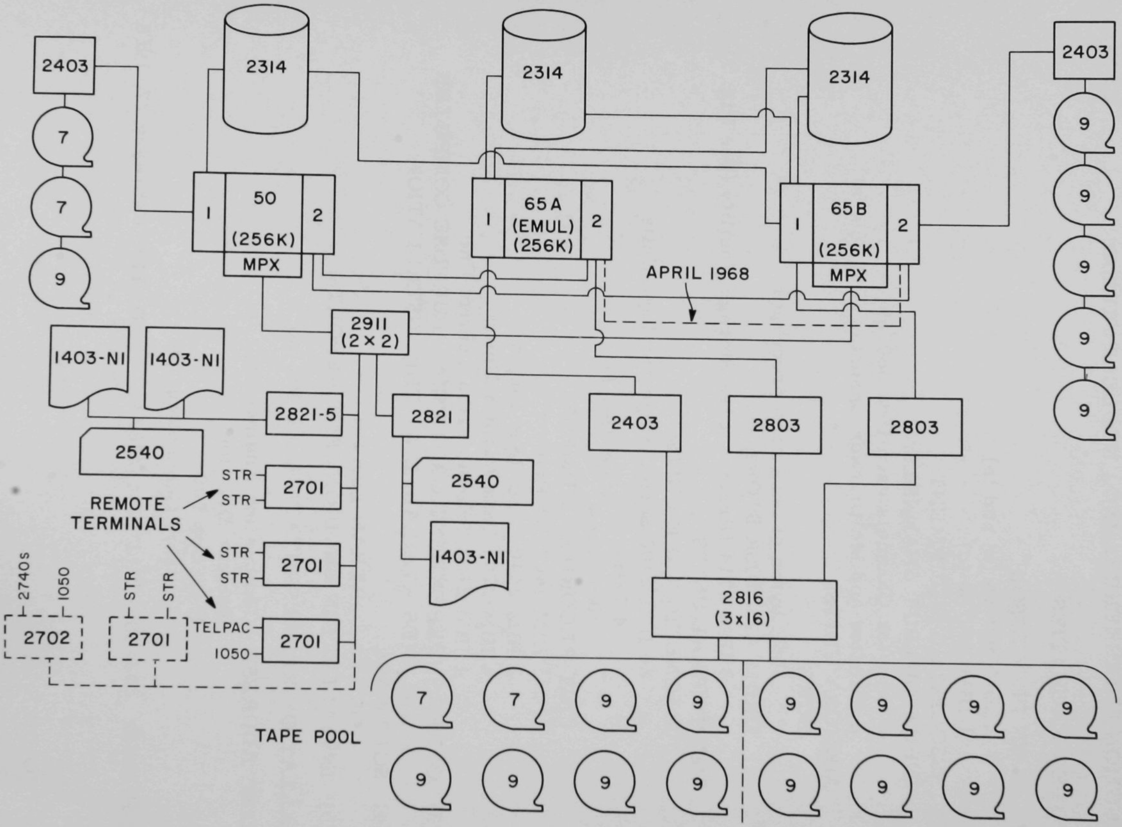

Fig. 1. Combustion Engineering Configuration

COOPERATING INSTALLATION FACILITIES REPORT

Section I of II

COMPUTER SCIENCES CORPORATION,
NORTHWEST OPERATION
CSCN

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    UNIVAC 1108
(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    1 GE 225 used for paper-to-magnetic tape conversions
  INPUT/OUTPUT CHANNELS:
    16 Channels
  MEMORY UNITS:
    CORE:
      1 UNIVAC 7005-89 memory, 131,072 36-bit words, 750 ns cycle time. (effectively 375 nanosecond with overlap)
    DRUM AND DISK STORAGE:
      5 UNIVAC FH 432 Magnetic Drums
      262,144 words each or 1,310,720 words total
      Average access time: 4.25 milliseconds
      Transmission rate: 240,000 words per second
      2 UNIVAC Fastrand II Magnetic Drums
      22,000,000 words each or 44,000,000 words total
      Average access time: 92 milliseconds
      Transmission rate: 25,600 words per second
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      8 Uniservo VIII-C Magnetic Tape Units
      2 Channels 200, 556, or 800 bpi, 120 in. per sec
      4,000, 11,120, or 16,000 words/sec
    UNIT RECORD EQUIPMENT:
      3 UNIVAC 1004 Subsystems, each with a Reader at 615 cpm and a Printer at 600 ℓpm. One of the 1004's has an attached Punch at 200 cpm.
      1 Console Typewriter
      2 high-speed data transmission channels with associated equipment, 5,100 characters per second
      5 regular data transmission channels with associated equipment, 300 characters per second
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
    1 Benson-Lehner Model J, 30" x 30" table plotter
    1 CALCOMP Model 763 Drum Plotter

(4) SOFTWARE:

EXEC II Operating System, with program maintenance on tape or drum.

FORTRAN V

COBOL

(5) INSTALLATION ENVIRONMENT REPORTS:

COOPERATING INSTALLATION FACILITIES REPORT

Section II of II

COMPUTER SCIENCES CORPORATION, NORTHWEST OPERATION — CSCN

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 7090
(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    1 GE 225 used for card-tape, tape-card, tape-print, and paper-to-magnetic tape conversions. (Same as in Section I)
  INPUT/OUTPUT CHANNELS:
    2 Channels
  MEMORY UNITS:
    CORE:
      1 32,768 36-bit word module 2.2 μsec cycle time.
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      16 IBM 729-6 Magnetic Tape Units
      2 Channels, 200, 556, or 800 bpi; 112 in./sec
      3840, 10,400, or 14,900 words/sec
    UNIT RECORD EQUIPMENT:
      1 IBM 711 Card Reader 250 cpm
      1 IBM 716 Printer 150 ℓpm
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
    (Same as in Section I)
(4) SOFTWARE:
    FORPAC is the main supervisory system and controls the loading and usage of
    (a) Fortran Monitor System (FORTRAN II)
    (b) IBSYS Version 12 (FORTRAN IV)
    (c) 9 PAC
      IBSYS Version 13 is also available
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: E. Z. Block

MAILING ADDRESS: Computer Sciences Corporation
825 Jadwin Avenue
Fifth Floor, Federal Building
Richland, Washington 99352

TELEPHONE: 509-942-1111 X6-5152

FTS: 06-89-52

DATE: March 12, 1968

COOPERATING INSTALLATION FACILITIES REPORT

CONTROL DATA CORPORATION, PALO ALTO, CALIFORNIA CDC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    2 CDC 6400
(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    CDC 1700, CDC 160-A
  INPUT/OUTPUT CHANNELS:
    12 Channels (standard)
  MEMORY UNITS:
    CORE:
      65K 60-bit words
      Extended Core Storage on each processor
    DRUM AND DISK STORAGE:
      CDC 6603 Disk System
      CDC 6638 Disk System 160 million characters
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      12 CDC 607 Magnetic Tape Transport, 800 bpi, 120 KC
    UNIT RECORD EQUIPMENT:
      1 CDC 405 Card Reader 1200 cpm
      1 CDC 415 Card Punch 250 cpm
      1 CDC 501 Line Printer 1000 ℓpm
  DISPLAY AND RECORDING EQUIPMENT:
    CDC 211 and CDC 212 Display and Entry Station
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
    FORTRAN, COBOL, ALGOL, SCOPE 3.1
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: S. Elkin

MAILING ADDRESS: Control Data Corporation
3145 Porter Drive
Palo Alto, California 94304

TELEPHONE: 415-321-8920 X571 DATE: February 15, 1968

COOPERATING INSTALLATION FACILITIES REPORT

DONALD W. DOUGLAS LABORATORIES DWDL

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
  UNIVAC 1108
  This installation uses the facilities of Computer Sciences Corporation Northwest Operations CSCN.

(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    UNIVAC 1104 System, including card reader, printer, card punch
  DISPLAY AND RECORDING EQUIPMENT:
    Benson-Lehner XY Plotter

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:
  FORTRAN II, FORTRAN IV, FORTRAN V, SLEUTH II, COBOL

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Robert B. Stallwood

MAILING ADDRESS: Donald W. Douglas Laboratories
2955 George Washington Way
Richland, Washington 99352

TELEPHONE: 509-946-4151 X297 DATE: March 11, 1968

COOPERATING INSTALLATION FACILITIES REPORT

DREXEL INSTITUTE OF TECHNOLOGY COMPUTING CENTER DTCC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
- 1 IBM 360/65 I

(2) ASSOCIATED EQUIPMENT:

INPUT/OUTPUT CHANNELS:
- 1 IBM 2870 Multiplexor Channel
- 2 IBM 2860 Selector Channels

MEMORY UNITS:
- CORE:
  - 2 IBM 2365 Processor Storage each of 256K bytes, 750 nanoseconds access time with 2 way interleaving of 450 nanoseconds.
- DRUM AND DISK STORAGE:
  - 1 IBM 2314 Direct Access Storage Facility with 8 drives plus alternate gives 233 million bytes at 75 to 125 milliseconds access time.
  - 2 IBM 2311 Disk Storage Drive, 15 million bytes storage at 150 to 250 milliseconds access time.
  - 1 IBM 2301 Drum Storage with 4 million bytes storage and 1024K/sec transmission rate.

PERIPHERAL UNITS:
- MAGNETIC TAPE UNITS:
  - 4 IBM 2400 Series Model 2 Magnetic Tape Units with 60 KC transmission rate, 200, 556, and 800 bpi, 2 of these are 7-track and there is 1 Selector Channel for all tapes.
  - 2 IBM 2415 Magnetic Tape Units and Control with 15 KC transmission rate, both are 9-track and the density is 800 bpi.
- UNIT RECORD EQUIPMENT:
  - 1 IBM 1052 Printer-Keyboard
  - 3 IBM 2501 Card Reader (2 at 1000 cpm, 1 at 600 cpm)
  - 3 IBM 1403 Printers (1100 ℓpm)
  - 3 IBM 2520 Card Punch (300 cpm)
  - 6 IBM 2741 Communication Terminal

DISPLAY AND RECORDING EQUIPMENT:
- 3 IBM 2260 Display Stations
- 1 CALCOMP Model 770/765 off-line digital plotter, 30 in. drum, 9-track tape drive, graphic display 18,000 steps/min. .01 in/step.
- 1 EAI (Electronic Associates Incorporated) off-line data plotter alphanumeric and graphic display speed is governed by IBM 026 key punch used as input device (card reader), prints lines, points in 48 alphanumeric characters 100 - 1 in. line segments/min or 60 - 5 in. line segments/min, 100 points/min.

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:

Compilers:	COBOL E & F	SNOBOL	PENFOR
	FORTRAN G & H	LIST	
	PL/I F	IPL/V	
	ASSEMBLER F	*1	
	GPSS III	CUPL	
	RPG	WATFOR	

Operating System: OS/360 with HASP I spooling system.

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Dr. Harry L. Brown

MAILING ADDRESS: Drexel Institute of Technology
Mechanical Engineering Department
32nd and Chestnut Streets
Philadelphia, Pennsylvania 19104

TELEPHONE: 215-387-2400 X622 DATE: July 31, 1968

COOPERATING INSTALLATION FACILITIES REPORT

E. I. DUPONT, SAVANNAH RIVER LABORATORY DP

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 360/65 I (a)

(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    IBM 360/30 E (b)
    IBM 1401 (c)
  INPUT/OUTPUT CHANNELS:
    IBM 360/65 has 2 Selector Channels and 1 Multiplexor Channel
    IBM 360/30 has 1 Selector Channel and 1 Multiplexor Channel
  MEMORY UNITS:
    CORE:
      IBM 360/65 I - 512K bytes
      IBM 360/30 E - 32K bytes
    DRUM AND DISK STORAGE:
      IBM 2311 Disk Storage Drive
      IBM 2314 Direct Access Storage Facility
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      10 IBM 2400 Series Magnetic Tape Units, 9 9-track 800 bpi, 1 7-track 200, 556, or 800 bpi (a)
      5 IBM 2400 Series Magnetic Tape Units, 1 9-track 800 bpi, 4 7-track 200, 556, or 800 bpi (b)
      1 IBM 729-IV Magnetic Tape Unit (c)
    UNIT RECORD EQUIPMENT:
      IBM 2540 Card Read Punch (reads 1000 cpm and punches 300 cpm)
      IBM 2501 Card Reader (500 cpm)
      IBM 1403-N1 Printer (1100 ℓpm)
      IBM 1403-2 Printer (600 ℓpm)
      IBM 1050 Data Communication System (15 char/sec)
  DISPLAY AND RECORDING EQUIPMENT:
    IBM 2260 Display Station

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:
    OS/360, BPS

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Mrs. C. R. Tharin

MAILING ADDRESS: E. I. duPont deNemours
Savannah River Laboratory
Applied Math Division
Aiken, South Carolina 29801

TELEPHONE: 803-824-6331 X3063

FTS: 803-642-3063

DATE: July 16, 1968

COOPERATING INSTALLATION FACILITIES REPORT

EUROPEAN NUCLEAR ENERGY AGENCY, COMPUTER PROGRAMME LIBRARY — ENEA

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
  - IBM 360/65 (a)
  - IBM 7090 (b)

(2) ASSOCIATED EQUIPMENT:
- SATELLITE OR OFF-LINE PROCESSORS:
  - IBM 360/30 (a)
  - IBM 1401 (b)
- INPUT/OUTPUT CHANNELS:
  - 3 IBM 2860-3 Selector Channels (a)
  - 2 IBM 7607 Data Channels (b)
- MEMORY UNITS:
  - CORE:
    - 512K bytes IBM 360/65
    - 32K 36-bit word IBM 7090
  - DRUM AND DISK STORAGE:
    - IBM 2314 Direct Access Storage Facility
    - IBM 2301 Drum Storage Unit
- PERIPHERAL UNITS:
  - MAGNETIC TAPE UNITS:
    - 8 IBM 2402-3 Magnetic Tape Units 112.5 in./sec, 200, 556, or 800 bpi, two Selector Channels, 90,000 byte per sec.
    - 14 IBM 729 Magnetic Tape Units 112.5 in./sec, 200, or 556 bits per inch, two Selector Channels.
  - UNIT RECORD EQUIPMENT:
    - 2 IBM 2540-1 Card Read Punch (reads 1000 cpm, punches 300 cpm)
    - 2 IBM 1403-N1 Printers (1100 ℓpm)
    - 1 IBM 2822-2671 Paper Tape Reader (1000 char/sec)
    - 1 IBM 1402 Card Read Punch (reads 800 cpm, punches 250 cpm)
    - 1 IBM 1403 Printer (600 ℓpm)
- DISPLAY AND RECORDING EQUIPMENT:
  - CALCOMP Plotter

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
  - Teleprocessing equipment, IBM 7702 (off-line connection Ispra-Geel)

(4) SOFTWARE:
- IBM 360/65 System
  - FORTRAN IV G, FORTRAN IV H, Assembler F, COBOL F, COBOL E
  - IBM 360 Operating System Version 14
- IBM 7090 System
  - FORTRAN II Version 2, FORTRAN II Version 3, FORTRAN IV, COBOL E, FORTRAN IV Version 13, Assembler

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Johnny Rosen

MAILING ADDRESS: ENEA Computer Programme Library
Casella Postale No. 15
21027 - Ispra (Varese) Italy

TELEPHONE: 78-271

DATE: September 1, 1968

COOPERATING INSTALLATION FACILITIES REPORT

FORT WORTH DIVISION OF GENERAL DYNAMICS CF

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    2 IBM 360/65 with IBM 7090 compatibility feature; attached to 360 Model 50 through channel-to-channel adapter.
(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    IBM 360/50 driving the two Model 65's (Dual Main ASP System)
  INPUT/OUTPUT CHANNELS:
    3 Selector Channels on each Model 65
    1 Multiplexor Channel and 3 Selector Channels on Model 50
  MEMORY UNITS:
    CORE:
      512K bytes (each Model 65)
      256K bytes (Model 50)
    DRUM AND DISK STORAGE:
      4 IBM 2314 Direct Access Storage Facility
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      22 IBM 2400 Series Model 3 Magnetic Tape Units (90,000 char/sec), 2 7-track (200, 556, 800 bpi), 20 9-track (800 bpi)
    UNIT RECORD EQUIPMENT:
      2 IBM 2540 Card Read Punch
      3 IBM 1403 Printer
      2 IBM 1012 Paper Tape Punch
      1 IBM 2671 Paper Tape Reader
  DISPLAY AND RECORDING EQUIPMENT:
    1 SC 4020 Computer Recorder
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
    OS/360 Release 14
    FORTRAN IV - G and H Version 2
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: E. E. Jones

MAILING ADDRESS: General Dynamics
Box 748
Fort Worth, Texas 76101

TELEPHONE: 817-732-4811 X2626/3265 DATE: July 26, 1968

COOPERATING INSTALLATION FACILITIES REPORT

GENERAL ELECTRIC COMPANY, NUCLEAR ENERGY DIVISION NED

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    GE 635
(2) ASSOCIATED EQUIPMENT:
    SATELLITE OR OFF-LINE PROCESSORS:
        GE 115, DATANET 30
    INPUT/OUTPUT CHANNELS:
    MEMORY UNITS:
        CORE:
            128K, 6-character, 36-bit words 1 μsec access
        DRUM AND DISK STORAGE:
            9 million characters - Drum - 17 ms latency - 300 KC transfer
            47 million characters - Disc - 52 ms file latency - 83 KC transfer
    PERIPHERAL UNITS:
        MAGNETIC TAPE UNITS:
            16 GE 770 Magnetic Tape Transports; 120 KC transfer; 200, 556, or 800 bpi density, 2 x 16 Controller, 7-channel tape
        UNIT RECORD EQUIPMENT:
            1 Card Reader (900 cpm)
            1 Card Punch (100 cpm)
            2 Line Printers (1200 ℓpm)
            1 Console Typewriter (15 char/sec)
            4 GE 115 Remote Terminals
            18 Teletype Remote Terminals
            1 DATANET 30 Communication Processor
            1 Paper Tape Reader Punch - Philco
    DISPLAY AND RECORDING EQUIPMENT:
        12 in. drum and 30 in. drum free-standing CALCOMP plotters
        Future plans for DATANET 760
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
    FORTRAN IV, COBOL, GMAP, GECOS Operating System, and IDS
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: F. A. Wassem

MAILING ADDRESS: General Electric Company
Nuclear Energy Division
Computation & Data Processing
175 Curtner Ave. M/C 311
San Jose, California 95125

3000 X2170 DATE: March 20, 1968

COOPERATING INSTALLATION FACILITIES REPORT

GENERAL ELECTRIC COMPANY, NRTS
NUCLEAR REACTOR TESTING STATION

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:

The computer facilities are those reported by Phillips Petroleum Company, PPCO. In addition, there is a shared-time telephone-teletype link to the GE 265 computer system in Chicago.

INSTALLATION REPRESENTATIVE: Farrel L. Sims

MAILING ADDRESS: General Electric Co. NMPO
Box 2147
Idaho Falls, Idaho 83401

TELEPHONE: 208-526-0111 X6224

FTS: 208-526-6224

DATE: August 1968

COOPERATING INSTALLATION FACILITIES REPORT

Section I of II

GENERAL ELECTRIC COMPANY, NUCLEAR SYSTEMS PROGRAMS, CINCINNATI, OHIO GEC

COMPUTER FACILITIES:

- (1) MAIN PROCESSOR:
    - GE 635
- (2) ASSOCIATED EQUIPMENT:
    - SATELLITE OR OFF-LINE PROCESSORS:
        - GE 115 Terminals for remote use
    - INPUT/OUTPUT CHANNELS:
        - 12 Channels
    - MEMORY UNITS:
        - CORE:
            - 128K, 36-bit words, 1 μsec access time
        - DRUM AND DISK STORAGE:
            - 4 Disc Files (1022 links of 3840 words each) on 2 I/O channels
            - 1 Drum on its own channel
    - PERIPHERAL UNITS:
        - MAGNETIC TAPE UNITS:
            - 16 115 in./sec tape drives on 3 cross/barred I/O channels
        - UNIT RECORD EQUIPMENT:
            - 3 Printers
            - 2 Card Readers } Each on separate I/O channel
            - 1 Card Punch
            - DATANET 30 Communication Terminal
    - DISPLAY AND RECORDING EQUIPMENT:
        - 30 in. drum free-standing CALCOMP plotter
- (3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
- (4) SOFTWARE:
    - FORTRAN IV, COBOL
    - GECOS II Operating System SDL-12 (7/18/68)
- (5) INSTALLATION ENVIRONMENT REPORTS:
    - No installation report but see:
    - CPB-371, GE-625/635 System Manual
    - CPB-1006, GE-625/635 FORTRAN IV
    - CPB-1004, GE-625/635 Programming Reference Manual

COOPERATING INSTALLATION FACILITIES REPORT

Section II of II

GENERAL ELECTRIC COMPANY, NUCLEAR SYSTEMS PROGRAMS, CINCINNATI, OHIO GEC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 7094-2
(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    IBM 1401
  INPUT/OUTPUT CHANNELS:
    2 Channels
  MEMORY UNITS:
    CORE:
      32K 36-bit words
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      16 IBM 729 Series Magnetic Tape Units
    UNIT RECORD EQUIPMENT:
      Normal
  DISPLAY AND RECORDING EQUIPMENT:
    CALCOMP (see Section I)
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
    FORTRAN II, FORTRAN IV, IBSYS
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Charles S. Robertson, Jr.

MAILING ADDRESS: General Electric Company
Nuclear Systems Programs
P.O. Box 15132
Cincinnati, Ohio 45215

TELEPHONE: 513-243-5401 X(Centrex)

FTS: Above is on FTS

DATE: July 18, 1968

COOPERATING INSTALLATION FACILITIES REPORT

GEORGIA INSTITUTE OF TECHNOLOGY GIT

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
- UNIVAC 1108 (a)
- BURROUGHS B5500 (b)

(2) ASSOCIATED EQUIPMENT:

INPUT/OUTPUT CHANNELS:
- B5500 - 4 Channels (fully floating)
- U1108 - 11 Channels (fixed)

MEMORY UNITS:
- CORE:
  - 32K, 48-bit words, 6 μsec cycle time (b)
  - 128K, 36-bit words, 0.75 μsec cycle (a)
- DRUM AND DISK STORAGE:
  - B5500 - 3.6 million 48-bit word disk (17 ms average access time)
  - U1108 - 2.2 million 36-bit word drum (17 ms average access time)
  - U1108 - 44 million 36-bit word FASTRAN (170 ms average access time)

PERIPHERAL UNITS:
- MAGNETIC TAPE UNITS:
  - B5500 - 10 Magnetic Tape Units, 200, 556 bpi
  - U1108 - 4 Magnetic Tape Units, 200, 556, or 800 bpi
- UNIT RECORD EQUIPMENT:
  - B5500 System
  - 2 Card Readers 600 cpm
  - 1 Card Punch 300 cpm
  - 2 Line Printers 600 ℓpm
  - 8 Teletypewriters
  - 8 Channels for remote teletypewriters
  - U1108 System
  - 3 Card Readers 600 cpm }
  - 2 Card Punch 300 cpm } 3 UNIVAC 1004 Units
  - 3 Line Printers 200 ℓpm }
  - 1 Line Printer 900 ℓpm
  - 2 Channels for remote UNIVAC 1004 units

DISPLAY AND RECORDING EQUIPMENT:
- 1 CALCOMP Plotter driven by magnetic tape

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:
- ALGOL, FORTRAN, COBOL for both machines

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Dr. Joseph D. Clement

MAILING ADDRESS: Georgia Institute of Technology
School of Nuclear Engineering
Atlanta, Georgia 30332

TELEPHONE: 404-873-4211 X5280 DATE: July 15, 1968

COOPERATING INSTALLATION FACILITIES REPORT

GULF GENERAL ATOMIC, INCORPORATED GGA

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
UNIVAC 1108

(2) ASSOCIATED EQUIPMENT:
SATELLITE OR OFF-LINE PROCESSORS:

2 UNIVAC 1004 IIA Card Processors
Includes 2 600 ℓpm Printers (132 Print positions)
2 615 cpm 80 col. Card Readers
2 200 cpm 80 col. Card Punch
1 400 char/sec 5, 6, 7 or 8 Level Paper Tape Reader

Used as parasite controlled on-line equipment to 1108 and off-line for card listing and card reproducing.

1 UNIVAC 1004 IIC Card Processor with DLT 1-B option for use as remote terminal with broad-band telephone (301B), has 600 ℓpm printer and 615 cpm card reader.

INPUT/OUTPUT CHANNELS:

Channel 0	4 FH432 Drums
Channel 1	4 FH880 Drums
Channel 2	8 VIIIC Tape Drives
Channel 8	1 755 Printer
Channel 9	1 755 Printer
Channel 10	1 1004IIA Card Processor
Channel 11	1 1004IIA Card Processor
Channel 12	1 Communication Terminal Synchronous (CTS) connected to broad-band telephone (301B)
Channel 14	1 CTS Connected to voice-grade telephone (201A)

MEMORY UNITS:

CORE:

1 UNIVAC 7005-94 65,536 36-bit words 750 ns cycle time, 375 ns effective cycle with overlap

DRUM AND DISK STORAGE:

4 UNIVAC FH432 Drums 1,048,576 36-bit words total. Average access time: 4.25 ms, transfer rate: 240,000 words (1,440,000 characters)/sec.

4 UNIVAC FH880 Drums 3,145,728 36-bit words total. Average access time: 17 ms, transfer rate: 60,000 words (360,000 characters)/sec.

PERIPHERAL UNITS:

MAGNETIC TAPE UNITS:

8 UNIVAC VIIIC Magnetic Tape Transports 7-track with hardware translate BCD-FIELDATA compatible with IBM 729. 200, 556, or 800 bpi density with 2400, 66,720, and 96,000 char/sec transfer rate, read forward and

UNIT RECORD EQUIPMENT:

- 2 UNIVAC 755-00 Printers: 132 Print positions 700 ℓpm A/N, 900 ℓpm Numeric
- 2 UNIVAC 1004-IIA Card Processors as described under Satellite or Off-Line Processors
- 1 Console Typewriter
- 1 UNIVAC FO615-00 CTS with FO616-00 Broad Band Interface for permanent remote 1004-IIC installation
- 1 UNIVAC FO615-00 CTS Dial-Up for use with remote 1004 operations
- 1 UNIVAC 1004-IIC described under Satellite or Off-Line Processors

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:

UNIVAC FORTRAN IV Version F4014B, COBOL, operating system is a heavily-modified GGA version of UNIVAC EXEC-II.

INSTALLATION REPRESENTATIVE: Joseph E. Gratteau

MAILING ADDRESS: Gulf General Atomic, Incorporated
P.O. Box 608
San Diego, California 92112

TELEPHONE: 714-453-1000 X1171

COOPERATING INSTALLATION FACILITIES REPORT

IBM JAPAN LTD., SCIENTIFIC DATACENTER SDC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 360/75I (a)
    IBM 7090 (b) This computer will be disconnected about the end of this year.

(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    IBM 360/20
  INPUT/OUTPUT CHANNELS:
    IBM 2860-3 Selector Channel (a)
    IBM 2870-1 Multiplexor Channel (a)
  MEMORY UNITS:
    CORE:
      2 IBM 2365-3 Processor Storage of 512K bytes and 0.75 μsec/8 bytes (a)
      32K 36-bit words (b)
    DRUM AND DISK STORAGE:
      2 IBM 2301 Drum Storage with 4,096K bytes, 8.6 ms access time, and 1.2 million bps transmission rate
      2 IBM 2311 Disk Storage Drive with 7,250K bytes, 75 ms access time and 156K bps transmission rate
      1 IBM 2314 Direct Access Storage Facility with 29,175K bytes, 75 ms and 312K bps transmission rate
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      3 IBM 2401 Magnetic Tape Units with 800 bpi, 90,000 bps, 2 9-track units and 1 7-track unit
    UNIT RECORD EQUIPMENT:
      IBM 2501-B2 Card Reader 1000 cpm
      IBM 2540-1 Card Read Punch reads at 1000 cpm, punches 300 cpm
      3 IBM 1403-N1 Printer 1100 ℓpm
      IBM 1052-7 Printer-Keyboard

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:
    HASP under OS Release 13 MFT-1, OS Release 13 PCP, Assembler F, COBOL, FORTRAN E, G, H, LINKAGE EDITOR E44K, PL/I, RPG, Utilities, Other Libraries, Macro Library, Sort/Merge, TESTRAN

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Yoshiro Tanamachi

MAILING ADDRESS: IBM Japan Ltd.
No. 5, 3-chome, Honcho, Nihonbashi
Chuo-ku, Tokyo
Japan

DATE: March 15, 1968

COOPERATING INSTALLATION FACILITIES REPORT

ISOTOPES NUCLEAR SYSTEMS DIVISION ISO

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
  IBM 360/44 direct word feature, external interrupt
(2) ASSOCIATED EQUIPMENT:
  INPUT/OUTPUT CHANNELS:
    Multiplexor Channel
  MEMORY UNITS:
    CORE:
      128K 32-bit words
    DRUM AND DISK STORAGE:
      2 IBM 2311 Disk Storage Drives
      2 IBM 2315 Disk Cartridges
  PERIPHERAL UNITS:
    UNIT RECORD EQUIPMENT:
      1 IBM 2501 Card Reader 1000 cpm
      1 IBM 1403 Printer 1100 ℓpm
      1 IBM 1052 Printer-Keyboard 14.8 cps
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
  Direct line from A-to-D converter for direct entry of analog test data into digital computer
(4) SOFTWARE:
  FORTRAN IV, Assembler, Digital Simulation Language, 44 PS Release 3 Operating System.

INSTALLATION REPRESENTATIVE: Thomas M. Olsen

MAILING ADDRESS: Isotopes, A Teledyne Company
Nuclear Systems Division
P.O. Box 4937
Middle River, Maryland 21220

TELEPHONE: 301-682-5800 X9103/9130 DATE: July 30, 1968

COOPERATING INSTALLATION FACILITIES REPORT

JET PROPULSION LABORATORY, JPL
CALIFORNIA INSTITUTE OF TECHNOLOGY

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
  IBM 7094/7044 Direct Couple System
(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    IBM 360/Model 20 for remote job entry
  INPUT/OUTPUT CHANNELS:
    5 Channels
  MEMORY UNITS:
    CORE:
      32K 36-bit words
    DRUM AND DISK STORAGE:
      3 IBM 1301 Disk Storage Units
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      12 IBM 729-VI Magnetic Tape Units, 200, 556, and 800 bpi, 15 KC, 62.5 KC, and 90 KC, 2 Channels
    UNIT RECORD EQUIPMENT:
      1 IBM 1402 Card Read Punch reads 800 cpm, punches 250 cpm
      3 IBM 1403-2 Printers 600 ℓpm
      2 IBM 1014 Remote Inquiry Unit
      1 IBM 7288 Data Transmission Equipment
  DISPLAY AND RECORDING EQUIPMENT:
    1 Stromberg Carlson SC 1420 Plotter, Microfilm and F80 Hard Copy
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
  4 IBM 1620 Computers with 40K memories
(4) SOFTWARE:
  IBSYS Version 13, FORTRAN IV, COBOL, MAP
(5) INSTALLATION ENVIRONMENT REPORTS:
  JPL Internal Reports:
    EDP-0476, Rev. 2, January 1968
    The JPL Direct-Couple Operating System
    Users Reference Guide

INSTALLATION REPRESENTATIVE: Henrik G. Gronroos

MAILING ADDRESS: Jet Propulsion Laboratory
Research and Advanced Concepts Section, 122-103
4800 Oak Grove Drive
Pasadena, California 91103

TELEPHONE: 213-354-3479 XDirect Line DATE: June 25, 1968

COOPERATING INSTALLATION FACILITIES REPORT

KANSAS STATE UNIVERSITY KSUN

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 360/50 G
(2) ASSOCIATED EQUIPMENT:
    INPUT/OUTPUT CHANNELS:
        1 Multiplexor Channel
        2 Selector Channels
    MEMORY UNITS:
        CORE:
            131bK IBM 2050-G 2 μsec access time
            1,048bK IBM 2361 Large Capacity Storage (LCS) 8 μsec access time 4-byte words
        DRUM AND DISK STORAGE:
            IBM 2314 Direct Access Storage Facility
    PERIPHERAL UNITS:
        MAGNETIC TAPE UNITS:
            1 IBM 2400 Series Model 2 Magnetic Tape Unit, 7-track
            4 IBM 2400 Series Magnetic Tape Unit 60 bK bytes/sec transmission rate; connected to one Selector Channel
        UNIT RECORD EQUIPMENT:
            1 IBM 2540 Card Read Punch 1000 cpm read, 300 cpm punch
            1 IBM 1403-2 Printer 600 ℓpm
            2 IBM 1050 Data Communication System with Card Readers 14.8 char/sec.
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
    1 IBM 1620 60K storage
(4) SOFTWARE:
    COBOL, PL/I, ASSEMBLER, ALGOL, RPG, SORT/MERGE
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: W. R. Kimel, Professor and Head

MAILING ADDRESS: Kansas State University
Department of Nuclear Engineering
Seaton Hall
Manhattan, Kansas 66502

TELEPHONE: 913-532-6521 DATE: February 14, 1968

COOPERATING INSTALLATION FACILITIES REPORT

KNOLLS ATOMIC POWER LABORATORY KAPL

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    2 CDC 6600
(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    UNIVAC 1005
  INPUT/OUTPUT CHANNELS:
    12 Channels
  MEMORY UNITS:
    CORE:
      65K 60-bit words, 5 μsec each processor
      1000K Extended Core Storage 60-bit words 10 wd/μsec, shared
    DRUM AND DISK STORAGE:
      4 CDC 808 Disk File 16 x 10^6 words each, shared
    DATA CELL, RACE, OR OTHER MASS STORAGE:
      2 IBM 2321 Data Cell Drives, shared
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      8 CDC 607 Magnetic Tape Transports, 800 bpi on dual channel, 120 KC shared
    UNIT RECORD EQUIPMENT:
      4 Line Printers 1000 ℓpm
      3 Card Readers 1200 cpm
      2 Card Punches 250 cpm
  DISPLAY AND RECORDING EQUIPMENT:
    CDC 280 Console Display with light pen
    CDC 280 Microfilm Recording System
    CALCOMP Plotter
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
    Four conversational teletypes to offsite GE-265 system
(4) SOFTWARE:
    SCOPE 3.1, KAPL File Manager Datapool, FORTRAN IV
(5) INSTALLATION ENVIRONMENT REPORTS:
    KAPL Computer Center Handbook

INSTALLATION REPRESENTATIVE: Mr. Marvin Lubert

MAILING ADDRESS: General Electric Company
Knolls Atomic Power Laboratory
Bldg. G-1 Room 101
P.O. Box 1072
Schenectady, New York 12301

TELEPHONE: 518-393-6611 X7307

FTS: 268954

DATE: February 29, 1968

COOPERATING INSTALLATION FACILITIES REPORT

LAWRENCE RADIATION LABORATORY, UNIVERSITY OF CALIFORNIA

LRL

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:

4 CDC 6600	(G, L, M, N)*
CDC 3600	(E)
IBM 7030	(C)
2 IBM 7094	(A, B)
RR LARC	(D)

(2) ASSOCIATED EQUIPMENT:

SATELLITE OR OFF-LINE PROCESSORS:

2 IBM 1401 one 8K memory, 4 tape units, one 4K memory, 2 tape units

(P) 2 DEC PDP 6 with a combined 256K memory size 36-bit word length

CDC 160A with an 8K 12-bit memory

INPUT/OUTPUT CHANNELS:

(G, L, M, N) 12 Channels each

MEMORY UNITS:

CORE:

(G, L, M, N) 128K 60-bit word
(E) 64K 48-bit word
(D) 30K 12 dec digit word length
(C) 96K 64-bit word length
(A, B) 32K 36-bit word length

DRUM AND DISK STORAGE:

(G, L, M, N) Disk Storage
(C) Disk Storage
(D) Drum Storage

Librascope Disk: Made by General Precision with a total storage capacity of 8.8×10^8 bits, contains two rotating disks. This device is attached on-line to the (P) PDP-6 computers.

DATA CELL, RACE, OR OTHER MASS STORAGE:

IBM Model 2321 Data Cell Drive with a total storage capacity of 3.2×10^9 bits. This device is attached on-line to the (P) PDP 6 computers.

IBM Photostore with a total storage capacity of 10^{12} bits. Formally named "Photo-Digital Storage System, Type 1360," this system which stores digital information on pieces of film, is attached on-line to the (P) PDP 6 computers.

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*Indicates Lawrence Radiation Laboratory's symbol designation.

PERIPHERAL UNITS:

MAGNETIC TAPE UNITS:

(G) 12 tape units; (L,M) 11 tape units each; (N) 8 tape units; (E) 16 tape units; (C) 11 tape units; (A,B) 15 tape units each; (D) 6 tape units

UNIT RECORD EQUIPMENT:

Radiation Printer: An electrosensitive line printer made by Radiation Inc. It prints 30,000 lines per minute (120 char/line) Xerox Copy-Flow: The Xerox copy machine enlarges frames from 35 mm film 13 times and copies the image onto 11" square paper. The machine copies 70 frames/min.

Developing Machines: Exposed 35mm film is developed periodically in two Houston Fearless Corporation developing machines (models "22C" and Labmaster) Maximum speed is 20 ft/min.

DISPLAY AND RECORDING EQUIPMENT:

1 - DEC PDP 1 with 4K memory size, 18-bit word length, tape units, paper tape, and CRT I/O.

DD-80 Recorders: Made by Data Display Inc., these are 5" CRT and 35 mm movie camera units which photograph computer output. Maximum speed is 32 frames/sec. There are two of these devices; one (DD80-A) is attached on-line to the (A) IBM 7090 and CDC 160A, the other (DD80-C) is attached on-line to the (L) CDC 6600.

CALCOMP Plotters: Three CALCOMP ink plotters are available for use; two are model 565 (10") and one is model 563 (30"). Two of the plotters (one 10" and the other 30") may be controlled by an attached tape drive. All three may be controlled by the PDP-1 computer.

(D) CRT output

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

SDS SIGMA 7 32K 32-bit word memory, disk storage
SDS SIGMA 2 8K 16-bit word memory
There are two tape units which are shared.

(4) SOFTWARE:

LRLTRAN (CIC-Manual L-001) which contains most desirable features of FORTRAN II, FORTRAN IV, and FORTRAN 63.

(5) INSTALLATION ENVIRONMENT REPORTS:

CIC Miscellaneous Publications 21; on file at ACC.

INSTALLATION REPRESENTATIVE: Viktor E. Hampel L-316

MAILING ADDRESS: Lawrence Radiation Laboratory
University of California
Livermore, California 94550

TELEPHONE: 415-447-1100 X8696 DATE: July 12, 1968

COOPERATING INSTALLATION FACILITIES REPORT

LOCKHEED MISSILES & SPACE COMPANY LMSC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
3 UNIVAC 1108 (a) System 92*
(b) System 93
(c) System 91

(2) ASSOCIATED EQUIPMENT:
SATELLITE OR OFF-LINE PROCESSORS:
10 UNIVAC 1004 Processors
University Computing Co. "COPE" Remote Terminal (700-900 cpm)
IBM 360/30
INPUT/OUTPUT CHANNELS:
16 Channels each processor
MEMORY UNITS:
CORE:
65K 36-bit words, 0.75 μsec cycle time (overlapped), each processor
DRUM AND DISK STORAGE:
9 UNIVAC FH432 Drums 262K words each, 1440 KC transfer rate on each processor
2 UNIVAC Fastrand II Drums shared by processor (a) and (b) 22 x 10^6 words each
PERIPHERAL UNITS:
MAGNETIC TAPE UNITS:
8 UNISERVOS VIII-C 200, 556, or 800 bpi density 96 KC transfer rate on two processors (a,b)
8 UNISERVOS IV-C 200, 556, or 800 bpi density 90 KC transfer rate on one processor (c)
UNIT RECORD EQUIPMENT:
Of the 10 UNIVAC 1004 Processors
5 are assigned (a) 2 local with 600 ℓpm Printer, 615 cpm Reader, 200 cpm Punch; 3 remote with lower speed Printer, Reader, 200 cpm Punch
2 are assigned (b) with 600 ℓpm Printer, 615 cpm Reader, 200 cpm Punch
3 are assigned (c) with 600 ℓpm Printer, 615 cpm Reader, 200 cpm Punch
In addition processors (a) and (b) each have two on-line 1108 Line Printers. (See Figs. 2 and 3)
Paper Tape Reader/Punch attached to IBM 360/30

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*Indicates Lockheed designation symbol.

DISPLAY AND RECORDING EQUIPMENT:
SC 4020 Plotter

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
Many digital and analog systems, including hybrid systems.

(4) SOFTWARE:
FORTRAN IV, FORTRAN V, SLEUTH (Assembly language), NELIAC, COBOL

(5) INSTALLATION ENVIRONMENT REPORTS:
"1108 Digital Computer Systems Manual," LMSC-68147

INSTALLATION REPRESENTATIVE: M. I. Temme

MAILING ADDRESS: Lockheed Palo Alto Research Laboratory
Department 52/10, Bldg. 205
3251 Hanover Street
Palo Alto, California 94304

TELEPHONE: 415-324-3311 X4-5482 DATE: July 20, 1968

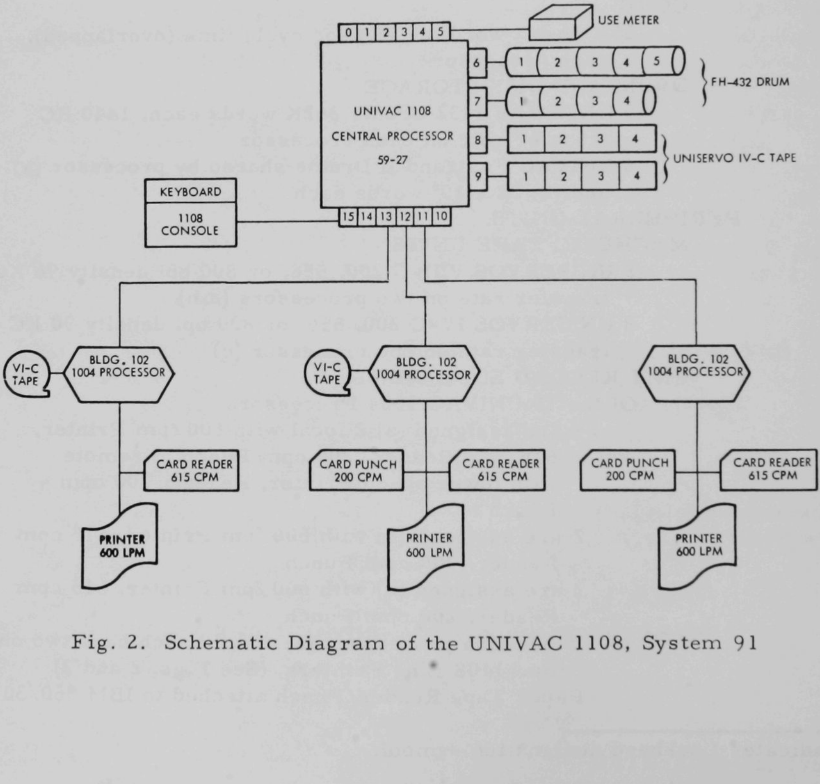
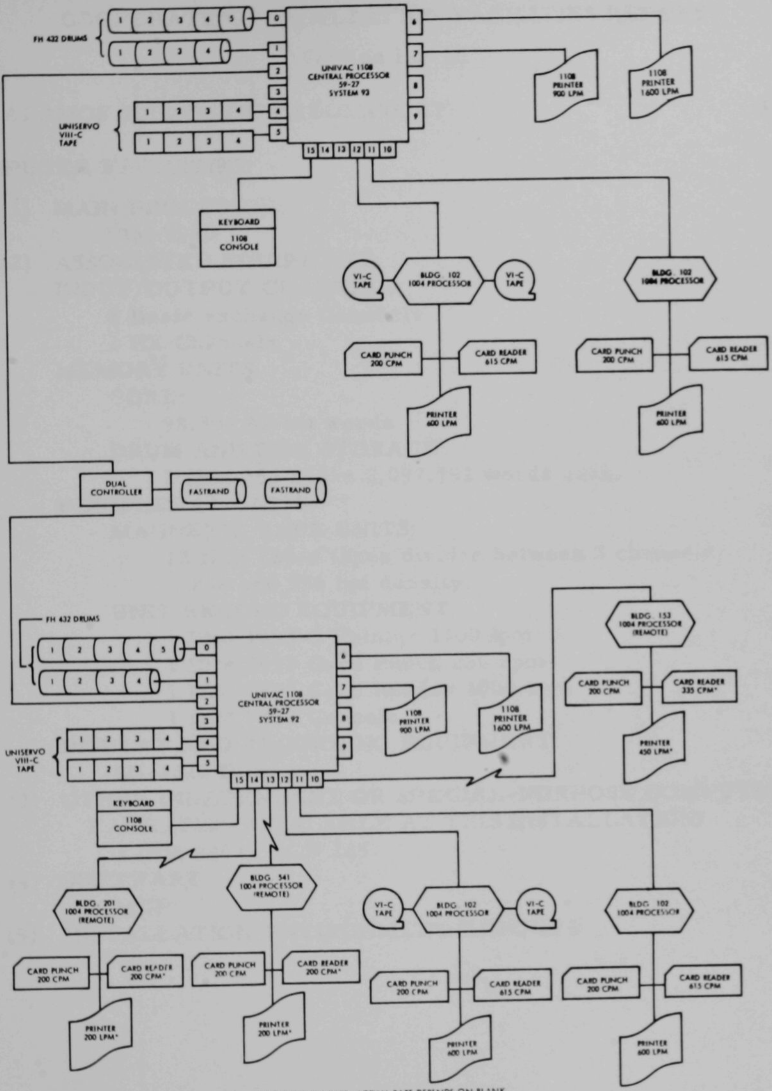


Fig. 2. Schematic Diagram of the UNIVAC 1108, System 91



*SPECIFICATION RATE: ACTUAL RATE DEPENDS ON BLANK COLUMN COUNT. SEE TABLE I-I FOR ACTUAL RATE RANGE.

Fig. 3. Schematic Diagram of the UNIVAC 1108 Systems 92 and 93

COOPERATING INSTALLATION FACILITIES REPORT

Section I of III

LOS ALAMOS SCIENTIFIC LABORATORY LASL

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 7030
(2) ASSOCIATED EQUIPMENT:
    INPUT/OUTPUT CHANNELS:
        8 Basic exchange Channels
        2 HX Channels
    MEMORY UNITS:
        CORE:
            98,304 64-bit words
        DRUM AND DISK STORAGE:
            2 IBM 353 Disks 2,097,152 words each.
    PERIPHERAL UNITS:
        MAGNETIC TAPE UNITS:
            12 IBM 729-4 tapes divided between 3 channels, 200 and 556 bpi density.
        UNIT RECORD EQUIPMENT:
            1 IBM 1403-3 Printer 1100 ℓpm
            1 IBM 7553 Card Punch 250 cpm
            1 IBM 7503 Card Reader 1000 cpm
            1 IBM 7152 Console
    DISPLAY AND RECORDING EQUIPMENT:
        SC-4020 Plotter
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
        2 IBM 1401, 1 GE 225
(4) SOFTWARE:
        MCP
(5) INSTALLATION ENVIRONMENT REPORTS:

COOPERATING INSTALLATION FACILITIES REPORT

Section II of III

LOS ALAMOS SCIENTIFIC LABORATORY LASL

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
- 2 IBM 7094

(2) ASSOCIATED EQUIPMENT:
- INPUT/OUTPUT CHANNELS:
  - 3 Channels
- MEMORY UNITS:
  - CORE:
    - 32, 768 36-bit words
  - DRUM AND DISK STORAGE:
    - IBM 1301 Disk Storage 8,736,420 words
    - IBM 7320 Drum Storage 372,000 words
- PERIPHERAL UNITS:
  - MAGNETIC TAPE UNITS:
    - 11 IBM 729-4 Magnetic Tape Units, 6 on Channel B and 5 on Channel A 200 and 556 bpi density
  - UNIT RECORD EQUIPMENT:
    - IBM 716 Printer 150 ℓpm
    - IBM 711 Card Reader 250 cpm
    - IBM 721 Card Punch 100 cpm
- DISPLAY AND RECORDING EQUIPMENT:
  - SC-4020 Plotter (As shown in Section I)

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
- 2 IBM 1401
- 1 GE 225

(As shown in Section I)

(4) SOFTWARE:
- IBSYS Version 13

(5) INSTALLATION ENVIRONMENT REPORTS:

COOPERATING INSTALLATION FACILITIES REPORT

Section III of III

LOS ALAMOS SCIENTIFIC LABORATORY LASL

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
3 CDC 6600

(2) ASSOCIATED EQUIPMENT:
SATELLITE OR OFF-LINE PROCESSORS:
10 Peripheral Processors for each processor
INPUT/OUTPUT CHANNELS:
12 Channels (standard) for each processor
MEMORY UNITS:
CORE:
65K 60-bit words each processor
500K Extended Core Storage, shared
DRUM AND DISK STORAGE:
3 CDC 6638 Disk System 6,553,600 words each
PERIPHERAL UNITS:
MAGNETIC TAPE UNITS:
22 CDC 607 Magnetic Tape Units with 200, 556, and 800 bpi
UNIT RECORD EQUIPMENT:
2 CDC 501 Line Printer 1000 ℓpm
1 CDC 405 Card Reader 1200 cpm } for each processor
1 CDC 415 Card Punch 250 cpm
1 CDC 3691 Paper Tape Reader and Punch attached to processor (b)
DISPLAY AND RECORDING EQUIPMENT:
SC-4020 Plotter (As shown in Section I)
CDC 280 Recorder attached to processor (a)

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
2 IBM 1401 } (As shown in Section I)
1 GE 225

(4) SOFTWARE:
SCOPE 3.0.24

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Forrest Brinkley

MAILING ADDRESS: Los Alamos Scientific Laboratory
P.O. Box 1663
Los Alamos, New Mexico 87544

TELEPHONE: 505-667-5422

FTS: 505-667-5422

DATE: February 15, 1968

COOPERATING INSTALLATION FACILITIES REPORT

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, MIT
INFORMATION PROCESSING CENTER

COMPUTER FACILITIES:

- (1) MAIN PROCESSOR:
  - IBM 360/65
- (2) ASSOCIATED EQUIPMENT:
  - SATELLITE OR OFF-LINE PROCESSORS:
    - IBM 360/40 support processor for 65
  - INPUT/OUTPUT CHANNELS:
    - IBM 360/40 3 Channels
    - IBM 360/65 3 Channels
  - MEMORY UNITS:
    - CORE:
      - 512K bytes
    - DRUM AND DISK STORAGE:
      - 10 IBM 2311 Disk Storage Drives
      - 1 IBM 2301 Drum Storage
    - DATA CELL, RACE, OR OTHER MASS STORAGE:
      - 1 IBM 2321 Data Cell Drive
  - PERIPHERAL UNITS:
    - MAGNETIC TAPE UNITS:
      - $13\left\{\begin{matrix}\text{IBM 2402}\\\text{IBM 2401}\end{matrix}\right\}$ Magnetic Tape Units, 6 9-track, 7 7-track
    - UNIT RECORD EQUIPMENT:
      - 2 IBM 2540 Card Read Punch
      - 3 IBM 1403-N1 Printers
      - 1 IBM 2701 Data Adapter Unit
      - 1 IBM 2702 Transmission Control Unit
- (3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
  - IBM 7094 Time-sharing system
- (4) SOFTWARE:
  - ASP
- (5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: K. F. Hansen

MAILING ADDRESS: Massachusetts Institute of Technology
Department of Nuclear Engineering
24-109
Cambridge, Massachusetts 02139

TELEPHONE: 617-864-6900 X3803 DATE: February 29, 1968

COOPERATING INSTALLATION FACILITIES REPORT

MC DONNELL AUTOMATION CENTER MA

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
CDC 6400 (a)
IBM 360/75 (b) } This installation used by APDA, S&L

(2) ASSOCIATED EQUIPMENT:
SATELLITE OR OFF-LINE PROCESSORS:
IBM 360/50 with 265K bytes support processor
Off-Line: 360/30 16K, 360/30 32K, 360/30 64K, 360/30 Multiprinter, 1440 8K
INPUT/OUTPUT CHANNELS:
IBM 360/75 - 2 Channels
IBM 360/50 - 2 Channels
MEMORY UNITS:
CORE:
IBM 360/75 512K bytes
DRUM AND DISK STORAGE:
2 IBM 2301 Drum Storage Units
1 IBM 2314 Direct Access Storage Facility
4 IBM 2311 Disk Storage Drive
PERIPHERAL UNITS:
MAGNETIC TAPE UNITS:
2 IBM 2401 Magnetic Tape Units 7-track
4 IBM 2401 Magnetic Tape Units 9-track
UNIT RECORD EQUIPMENT:
Various card punches, card verifiers, sorters, computing accounting machines, document originating machines, and interpreters.
IBM 1403 Printer
IBM 2540 Card Read Punch
IBM 2701 Data Adapter Unit

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:
FORTRAN IV, OS/360 H Level Version 13

(5) INSTALLATION ENVIRONMENT REPORTS:

PREPARED BY: Eugene R. Volk, APDA INSTALLATION REPRESENTATIVE

DATE: February 12, 1968

COOPERATING INSTALLATION FACILITIES REPORT

MPR ASSOCIATES, INC. MPR

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    Connected with Time Share Facility - Comnet, Washington, D.C.
    Burroughs - 5500
(2) ASSOCIATED EQUIPMENT:
    MEMORY UNITS:
        CORE:
            32K available
        DRUM AND DISK STORAGE:
            Burroughs Disk Storage, 25 ms average access, addressable up to 2 billion character storage available, 6-bit characters with 8 characters per word unit.
    PERIPHERAL UNITS:
        MAGNETIC TAPE UNITS:
            Burroughs Magnetic Tape Units
        UNIT RECORD EQUIPMENT:
            Card Reader
            Card Punch
            Line Printer
            Remote Teletype
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
        FORTRAN IV, ALGOL, BASIC
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: V. Dean Rose

MAILING ADDRESS: MPR Associates, Inc.
1140 Connecticut Avenue, Room 900
Washington, D.C. 20036

TELEPHONE: 202-659-2320 X27 DATE: July 23, 1968

COOPERATING INSTALLATION FACILITIES REPORT

NASA--LEWIS RESEARCH CENTER LER

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
- IBM 360/67 (a)
- IBM 7094/7044 Direct Couple System (b)
- IBM 7094/7040 Direct Couple System (c)

(2) ASSOCIATED EQUIPMENT:

INPUT/OUTPUT CHANNELS:
- IBM 360/67 3 Channels
- IBM 7044 3 Channels
- IBM 7040 3 Channels

MEMORY UNITS:
- CORE:
  - 2 IBM 2365 512K bytes
  - 2 IBM 7094 32K 36-bit words each
  - 1 IBM 7044 32K 36-bit words
  - 1 IBM 7040 32K 36-bit words
- DRUM AND DISK STORAGE:
  - 1 IBM 2301 Drum Storage Unit (a)
  - 1 IBM 2314 Direct Access Facility (a)
  - 1 IBM 7320 Drum Storage Unit (b)
  - 1 IBM 1301 Disk Storage Unit (b)
  - 1 IBM 1301 Disk Storage Unit (c)

PERIPHERAL UNITS:
- MAGNETIC TAPE UNITS:
  - 8 IBM 2403-6 Magnetic Tape Units 800 bpi (a)
  - 8 IBM 729-6 Magnetic Tape Units 800 bpi (b)
  - 9 IBM 729-6 Magnetic Tape Units 800 bpi (c)
- UNIT RECORD EQUIPMENT:
  - IBM 360/67 System
    - 1 Card Reader 1000 cpm
    - 1 Card Punch 400 cpm
    - 2 Printers 1100 ℓpm
    - 10 Teletype and Typewriter Terminals
    - 1 Paper Tape Reader
  - IBM 7094/7044 System
    - 1 Card Reader 800 cpm
    - 1 Card Punch 400 cpm
    - 2 Printers 1000 ℓpm
  - IBM 7094/7040 System
    - 1 Card Reader 800 cpm
    - 1 Card Punch 400 cpm
    - 3 Printers 600 ℓpm

DISPLAY AND RECORDING EQUIPMENT:
  IBM 360/67 DD80 20-point Display
  CDC 280 Film Recorder
  2 IBM 2260 Display Station

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:
  FORTRAN IV Version 13 IBM 7094/7044 and IBM 7094/7040 Direct Couple Systems
  TSS FORTRAN IV IBM 360/67

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Thor T. Semler

MAILING ADDRESS: NASA Lewis Research Center
21000 Brookpark Center
Cleveland, Ohio 44135

TELEPHONE 216-433-4000 X394

FTS: 8-216-433-6394 alternate 6691

DATE: July 24, 1968

COOPERATING INSTALLATION FACILITIES REPORT

NATIONAL BUREAU OF STANDARDS NBS

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
  UNIVAC 1108A
  This installation used by Headquarters, AEC.

(2) ASSOCIATED EQUIPMENT:
 SATELLITE OR OFF-LINE PROCESSORS:
  UNIVAC 418-2 Message Switcher
 INPUT/OUTPUT CHANNELS:
  12 Channels
 MEMORY UNITS:
  CORE:
   65,536 36-bit words, 375 ns cycle
  DRUM AND DISK STORAGE:
   2 UNIVAC FASTRAND II Drums capacity of 22 million words each (132 million character), average access time of 92 ms, transfer rate 150 KC.
   2 UNIVAC FH 432 Drums capacity of 0.25 million words each (1.5 million character), average access time 4.25 ms, transfer rate 1440 KC
 PERIPHERAL UNITS:
  MAGNETIC TAPE UNITS:
   8 7-track UNISERVO Magnetic Tape Units, 96 KC transfer rate 800 bpi; 66 KC transfer rate 556 bpi; 24 KC transfer rate 200 bpi
   Drives have the IBM-Compatible Code Translate feature.
  UNIT RECORD EQUIPMENT:
   1 UNIVAC 1004 II System: Card Reader, Line Printer, Card Punch
   1 UNIVAC 1004 II System: Card Reader, Line Printer
   Card Reader: 615 cpm
   Card Punch: 200 cpm
   Line Printer: 600 ℓpm (132 char/line)
 DISPLAY AND RECORDING EQUIPMENT:
  CALCOMP 763-770 Digital Plotter
  Stromberg Carlson 4020 Film & Hard Copy Recorder
  Digit-Data (Paper Tape to Magnetic Tape) 200 bpi

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:
  1108 EXEC-II Operating System
  1108 ASSEMBLER
  1108 COBOL
  1108 FORTRAN V

(5) INSTALLATION ENVIRONMENT REPORTS:

PREPARED BY: Lawrence Kopp, AEC Installation Representative

DATE: February 13, 1968

COOPERATING INSTALLATION FACILITIES REPORT

NORTH CAROLINA STATE UNIVERSITY NCSU

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 360/40 F
(2) ASSOCIATED EQUIPMENT:
    SATELLITE OR OFF-LINE PROCESSORS:
        2 IBM 1130 Stand alone and teleprocessing to IBM 360/75 at the Triangle Universities Computation Center (TUCC)
    INPUT/OUTPUT CHANNELS:
        2 Selector Channels
        1 Multiplexor Channel
    MEMORY UNITS:
        CORE:
            256K bytes
        DRUM AND DISK STORAGE:
            IBM 2314 Direct Access Storage Facility
    PERIPHERAL UNITS:
        MAGNETIC TAPE UNITS:
            2 IBM 2401-2 Magnetic Tape Units, 9-track, 800 bpi
        UNIT RECORD EQUIPMENT:
            IBM 1403-N1 Printer 1100 ℓpm
            IBM 1403-2 Printer 600 ℓpm
            IBM 2540 Card Read Punch reads 1000 cpm, punches 300 cpm
            IBM 2501 Card Reader 1000 cpm
    DISPLAY AND RECORDING EQUIPMENT:
        CALCOMP 563 Plotter 0.01 inch incremental
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
    The University Computer operates in both the teleprocessing and stand-alone modes concurrently under EMFT of O/S
(4) SOFTWARE:
    FORTRAN G, FORTRAN H(TUCC only), WATFOR, PL/I F, COBOL F, ALGOL, OS/EMFT Release 13.
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: A. Carnesale, Associate Professor of Nuclear Engineering

MAILING ADDRESS: North Carolina State University
P. O. Box 5636
Raleigh, North Carolina 27607

TELEPHONE: 919-755-2298

DATE: July 15, 1968

COOPERATING INSTALLATION FACILITIES REPORT

NUCLEAR TECHNOLOGY CORPORATION NTC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
None, use service bureau facilities.

INSTALLATION REPRESENTATIVE: Arthur J. Goldman

MAILING ADDRESS: Nuclear Technology Corporation
116 Main Street
White Plains, New York 10605

TELEPHONE: 914-949-5660 DATE: July 12, 1968

COOPERATING INSTALLATION FACILITIES REPORT

NUCLEAR UTILITY SERVICES CORPORATION NUS

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
None, use service bureau facilities

(2) ASSOCIATED EQUIPMENT:
MEMORY UNITS:
UNIT RECORD EQUIPMENT:
2 IBM 29 Card Punch
1 IBM 59 Card Verifier
2 KSR 35 Teletype for time-sharing use
1 IBM 870 Card Reader, Print Control, Card Punch, Typewriter

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
Terminal facility to be in operation September 1968

INSTALLATION REPRESENTATIVE: Y. S. Kim

MAILING ADDRESS: NUS Corporation
2351 Research Boulevard
Rockville, Maryland 20850

TELEPHONE: 301-948-7010

DATE: August 1968

COOPERATING INSTALLATION FACILITIES REPORT

THE PENNSYLVANIA STATE UNIVERSITY PSU

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
  IBM 360/67

(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    4 IBM 360/20, (two being used for remote batch input/output and two for card tabulating)
  MEMORY UNITS:
    CORE:
      3 IBM 2065 Processor Storage Units 256K bytes, 1 μsec access, two-way interleaving, byte addressable
    DRUM AND DISK STORAGE:
      1 IBM 2301 Drum Storage Unit
      10 IBM 2311 Disk Storage Drive
      1 IBM 2314 Direct Access Storage Facility
    DATA CELL, RACE, OR OTHER MASS STORAGE:
      1 IBM 2321 Data Cell Drive
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      6 IBM 2400 Series Magnetic Tape Units, 9-track, 800 bpi
      2 IBM 2400-1 Magnetic Tape Units, 7-track, 200, 556, or 800 bpi
      } 2 Channels
    UNIT RECORD EQUIPMENT:
      2 Card Read Punch reads 1000 cpm, punches 250 cpm
      3 Printers 1200 ℓpm
      4 Printers 600 ℓpm
      4 Card Punch 100 cpm
      4 Card Reader 800 cpm
      1 IBM 2702 Transmission Control
      1 IBM 2701 Data Adapter Unit
      10 IBM 1050 Typewriter Terminals
      10 IBM 2741 Communication Terminal
      70 IBM 029 Card Punch
  DISPLAY AND RECORDING EQUIPMENT:
    10 IBM 2260 Display Station
    1 IBM 2250 Display Unit
    1 CALCOMP 570 Plotter

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
  IBM 1401 with two IBM 729 Magnetic Tape Units
  IBM 1410 with four IBM 729 Magnetic Tape Units and 10 IBM 1311 Disk Storage Drives

(4) SOFTWARE:
  OS/360
  FORTRAN G and H, COBOL, ALGOL, PL/I, GPSS, MPS, LISP, various other specialized languages e.g. SLIP, EULER

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Walter H. D'Ardenne, Assistant Professor

MAILING ADDRESS: Pennsylvania State University
Department of Nuclear Engineering
231 Sackett Building
University Park, Pennsylvania 16802

TELEPHONE: 814-865-1342 DATE: March 4, 1968

COOPERATING INSTALLATION FACILITIES REPORT

PHILLIPS PETROLEUM COMPANY PPCO

COMPUTER FACILITIES:

- (1) MAIN PROCESSOR:
  - IBM 7044 (a)
  - CDC 1604 (b)
  - CDC 3100 (c)
- (2) ASSOCIATED EQUIPMENT:
  - MEMORY UNITS:
    - CORE:
      - IBM 7044 32K 36-bit word
      - CDC 1604 32K 48-bit word
      - CDC 3100 8K
  - PERIPHERAL UNITS:
    - MAGNETIC TAPE UNITS:
      - 11 IBM 729-5 Magnetic Tape Units 75IPS, 200, 556, or 800 bpi 7-track (a)
      - 1 IBM 7330 Magnetic Tape Unit 37.5IPS, 200, or 556 bpi, 7-track (a)
      - 4 CDC 604 Magnetic Tape Transports, 75IPS, 200, 556 or 800 bpi, 7-track (c)
      - 8 CDC 606 Magnetic Tape Transports, 150IPS, 200 or 556 bpi, 7-track (b)
    - UNIT RECORD EQUIPMENT:
      - 2 CDC 405 Card Reader 1200 cpm
      - 3 CDC 415 Card Punch 250 cpm
      - 1 CDC 501 Printer 1000 ℓpm
      - 1 IBM 1403 Printer 1000 ℓpm
      - 1 CDC 1612 Printer 1000 ℓpm
      - 1 CDC 3691 Paper Tape Reader and Punch 250 cps
      - 1 CDC 3192 Typewriter 15 cps
      - 1 IBM Sel Typewriter 15 cps
- (3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
- (4) SOFTWARE:
  - IBM 7044 IBSYS Version 9-9 FORTRAN IV, COBOL, MAP
  - CDC 1604 FORTRAN 63, COBOL
  - CDC 3100 own system and SCOPE
- (5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Deloss Hoskins

MAILING ADDRESS: Phillips Petroleum Co.
Box 2067
Idaho Falls, Idaho

TELEPHONE: 208-522-4400 X2572

DATE: July 15, 1968

COOPERATING INSTALLATION FACILITIES REPORT

PURDUE UNIVERSITY PURD

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
  - CDC 6500 (a)
  - IBM 7094 (b)

(2) ASSOCIATED EQUIPMENT:
  - SATELLITE OR OFF-LINE PROCESSORS:
    - IBM 1401 off-line processor for IBM 7094
  - MEMORY UNITS:
    - CORE:
      - 65K 60-bit words (a)
      - 32K 36-bit words (b)
    - DRUM AND DISK STORAGE:
      - 2 CDC 6638 Disk Systems each containing 170 million characters with transfer rate of 1.7 million chars/sec (a)
      - 4 CDC 854 Disk Storage Drives each with 9 million character capacity (a)
      - 1 IBM 1301 Disk Storage Drive with 56 million character capacity (b)
  - PERIPHERAL UNITS:
    - MAGNETIC TAPE UNITS:
      - 4 CDC 604 Magnetic Tape Transports 60 KC transfer rate (a)
      - 8 IBM 729-4 Magnetic Tape Units 90 KC transfer rate (b)
    - UNIT RECORD EQUIPMENT:
      - CDC 6500 System
        - 2 CDC 405 Card Readers 1000 cpm
        - 3 CDC 501 Line Printers 1000 ℓpm
        - 1 CDC 415 Card Punch 250 cpm
      - IBM 7094 System uses IBM 1401 off-line processor
  - DISPLAY AND RECORDING EQUIPMENT:
    - 1 CDC 252 Display Console (a)

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:
  - CDC 6500 System: SCOPE 3.1 Operating System, FORTRAN, COBOL, ALGOL, SNOBOL, SORT/MERGE, OPTIMA

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Prof. Owen Gailer

MAILING ADDRESS: Purdue University
Department of Nuclear Engineering
West Lafayette, Indiana 47907

TELEPHONE: 317-749-3208

DATE: July 18, 1968

COOPERATING INSTALLATION FACILITIES REPORT

S. A. ATOMIC ENERGY BOARD AEB

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
  IBM 360/40 H
(2) ASSOCIATED EQUIPMENT:
  INPUT/OUTPUT CHANNELS:
    1 Multiplexor Channel
    1 Selector Channel
  MEMORY UNITS:
    CORE:
      256K bytes, access time 2.5 μsec for 2 bytes.
    DRUM AND DISK STORAGE:
      2 IBM 2311 Disk Storage Drive. A third drive is on order.
  PERIPHERAL UNITS:
    UNIT RECORD EQUIPMENT:
      1 IBM 2501 Card Reader 1000 cpm
      1 IBM 1443 Printer 240 ℓpm
      1 IBM 1442 Card Punch 160 cpm
      1 IBM 1052 Printer-Keyboard
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
  Paper Tape to Card Converter
(4) SOFTWARE:
  O/S Release 14, FORTRAN IVG, Assembler F, Linkage Editor E
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: O. G. P. Grosskopf

MAILING ADDRESS: S. A. Atomic Energy Board
Computing Centre
Private Bag 256
Pretoria, Republic of South Africa

TELEPHONE: Pretoria, 79-4441 X519 DATE: August 13, 1968

COOPERATING INSTALLATION FACILITIES REPORT

SANDIA CORPORATION SC

COMPUTER FACILITIES:

- (1) MAIN PROCESSOR:
  - CDC 3600
  - 2 IBM 7090
- (2) ASSOCIATED EQUIPMENT:
  - SATELLITE OR OFF-LINE PROCESSORS:
    - CDC 160A and CDC 8090 satellite to the CDC 3600
  - INPUT/OUTPUT CHANNELS:
    - 21 Channels
  - MEMORY UNITS:
    - CORE:
      - 65K 48-bit words CDC 3600
      - 32K 36-bit words each IBM 7090
    - DRUM AND DISK STORAGE:
      - 2 Disk Systems each with a capacity of 268 million 6-bit chars. are attached to the CDC 3600
  - PERIPHERAL UNITS:
    - MAGNETIC TAPE UNITS:
    - UNIT RECORD EQUIPMENT:
      - 2 CDC Line Printers 1000 ℓpm
      - 2 CDC Line Printers 600 ℓpm
  - DISPLAY AND RECORDING EQUIPMENT:
    - SC 4020 Plotter
- (3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
- (4) SOFTWARE:
  - CDC 3600 SCOPE
  - IBM 7090 IBSYS
- (5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: W. H. Schmidt

MAILING ADDRESS: Sandia Corporation
Albuquerque, New Mexico 87115

TELEPHONE: 505-264-8804 DATE: February 13, 1968

COOPERATING INSTALLATION FACILITIES REPORT

SARGENT & LUNDY ENGINEERS S&L

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:

IBM 1131-2C

This installation uses the McDonnell Automation Center facilities and Philoc-Ford Corporation facilities.

(2) ASSOCIATED EQUIPMENT:

SATELLITE OR OFF-LINE EQUIPMENT:

IBM 1130 System serves as a satellite to larger service bureau installations.

MEMORY UNITS:

CORE:

16K 16-bit words of 3.6 μsec cycle time.

DRUM AND DISK STORAGE:

- 1 IBM 2310-B2 Disk Storage Unit capacity of two 2315 magnetic disk units 1,024,000 16-bit words
- 1 IBM 2315 Disk Cartridge 512,000 16-bit words, transfer rate 720,000 bps

PERIPHERAL UNITS:

UNIT RECORD EQUIPMENT:

- 1 IBM 1442 Card Read Punch reads 300 cpm, punches 80 cols/sec
- 1 IBM 1403-7 Printer 600 ℓpm
- 1 IBM 1131 Communication Adapter
- 1 Model 201-A4 Data Set

DISPLAY AND RECORDING EQUIPMENT:

1 30 in. CALCOMP Model 563 Plotter with 0.005 incremental step-size

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:

1130 Assembler
1130 FORTRAN
Operating System: IBM 1130 Disk Monitor System
Version 2 Modification Level 1

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Charles F. Beck

MAILING ADDRESS: Sargent & Lundy Engineers
140 S. Dearborn Street
Chicago, Illinois 60603

TELEPHONE: 312-346-7600 X260

DATE: May 7, 1968

COOPERATING INSTALLATION FACILITIES REPORT

SOUTHERN NUCLEAR ENGINEERING, INC. SNE

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 7094 (a)
    IBM 360/65 (b)

(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    2 IBM 1401, one with 16K memory and one with 8K memory
  INPUT/OUTPUT CHANNELS:
    1 Multiplexor Channel (b)
    2 Selector Channels (b)
  MEMORY UNITS:
    CORE:
      32K 36-bit word memory (a)
      512K bytes (b)
      IBM 2361 Core Storage Unit 10^6 bytes (b)
    DRUM AND DISK STORAGE:
      4 IBM 2311 Disk Storage Drive (b)
      1 IBM 2301 Drum Storage Unit (b)
    DATA CELL, RACE, OR OTHER MASS STORAGE:
      1 IBM 2321 Data Cell Drive 4 x 10^8 bytes (b)
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      14 IBM 729 Series Magnetic Tape Units (a)
      6 IBM 2400 Series Magnetic Tape Units (b)
      4 IBM 7330 Magnetic Tape Units on one IBM 1401
      2 or 4 IBM 729-5 Magnetic Tape Units on second IBM 1401
    UNIT RECORD EQUIPMENT:
      IBM 360/65 System
        4 IBM 2741 Communication Terminals
        1 IBM 2702 Transmission Control
        1 IBM 2540 Card Read Punch
        2 IBM 1403 Printer 1100 ℓpm
      IBM 7094 System has on-line Card Reader and Printer. Each IBM 1401 System has IBM 1402 Card Read Punch and IBM 1403 Printer 600 ℓpm
  DISPLAY AND RECORDING EQUIPMENT:
    IBM 360/65 System
      2 IBM 2260 Display Stations
      3 IBM 2250 Display Units

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Kenneth E. Roach

MAILING ADDRESS: Southern Nuclear Engineering, Inc.
P. O. Box 10
Dunedin, Florida 33528

TELEPHONE: 813-733-3138 DATE: February 12, 1968

COOPERATING INSTALLATION FACILITIES REPORT

TEXAS A&M UNIVERSITY TAMU

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 360/65
(2) ASSOCIATED EQUIPMENT:
  INPUT/OUTPUT CHANNELS:
    1 Multiplexor Channel
    2 Selector Channels
  MEMORY UNITS:
    CORE:
      512K bytes 0.75 μsec access time
    DRUM AND DISK STORAGE:
      1 IBM 2314 Direct Access Storage Facility
        233,408,000 bytes capacity, 240,000 bps transmission rate
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNIT:
      2 IBM 2401 Magnetic Tape Units, 200, 556, or 800 bpi, 90KB
      6 IBM 2401 Magnetic Tape Units, 200, 556, or 800 bpi, 60KB
    UNIT RECORD EQUIPMENT:
      2 IBM 1403 Printers 600 ℓpm
      1 IBM 2540 Card Read Punch reads 1000 cpm; punches 300 cpm
      1 IBM 2501 Card Reader 600 ℓpm
      4 IBM 2740 Communication Terminals 15 char/sec
  DISPLAY AND RECORDING EQUIPMENT:
    4 IBM 2260 Display Stations
    CALCOMP 565 Plotter
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
    1 IBM 1401 with 4K character memory, 3 Magnetic Tape Units, Card Read Punch
    1 IBM 1404 Printer
    IBM 1231 Optical Mark Page Reader
(4) SOFTWARE:
    OS/360, FORTRAN Level E, G, and H, COBOL Level F, PL/I, SORT, ALGOL, Assembler, Mathematical Programming System, Continuous System Modeling Program, Integrated Civil Engineering System, APT Numerical Control Processor
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: E. J. Dowdy

MAILING ADDRESS: Texas A&M University
Nuclear Engineering Department
College Station, Texas 77843

TELEPHONE: 713-846-3706

DATE: July 16, 1968

COOPERATING INSTALLATION FACILITIES REPORT

UNITED AIRCRAFT RESEARCH LABORATORIES UARL

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
 2 UNIVAC 1108
(2) ASSOCIATED EQUIPMENT:
 INPUT/OUTPUT CHANNELS:
  12 and 13 - Card input
  9, 10, 11, and 14 - Printers
  4 and 5 Tape
 MEMORY UNITS:
  CORE:
   1 unit, 1108, capacity of 65,536 words (36-bit/word), access time of 375 ns, cycle time of 750 ns.
  DRUM AND DISK STORAGE:
   3 UNIVAC FH 880 Drums, capacity of 768,000 words/unit (36-bit/word), access time of 17 ms transmission rate of 360,000 char/sec.
   3 UNIVAC FH 432 Drums, capacity of 262,144 words/unit (36-bit/word), access time of 4.3 ms transmission rate of 1,440,000 char/sec.
 PERIPHERAL UNITS:
  MAGNETIC TAPE UNITS:
   10 UNISERVO VIII-C Magnetic Tape Units 200, 556, or 800 bpi density, 2 channels, transmission rates of 8500, 23,700 and 34,200 char/sec.
  UNIT RECORD EQUIPMENT:
   3 Card Readers 900 cpm
   3 Card Punches 300 cpm
   5 Line Printers 700-922 ℓpm
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
  Languages-FORTRAN V Level 9
   COBOL Level BL 4-B, EXEC II Operating System

INSTALLATION REPRESENTATIVE: Thomas S. Latham

MAILING ADDRESS: United Aircraft Research Laboratories
400 Main Street
East Hartford, Connecticut 06108

TELEPHONE: 203-565-8694 DATE: August 13, 1968

COOPERATING INSTALLATION FACILITIES REPORT

UNITED NUCLEAR CORPORATION, RESEARCH & ENGINEERING CENTER — UNC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
  CDC 1604A
(2) ASSOCIATED EQUIPMENT:
  INPUT/OUTPUT CHANNELS:
    3 input Channels - one combination high-speed input/output Channel
    2 output Channels
  MEMORY UNITS:
    CORE:
      32,768 48-bit words - access time 2.2 μsec; cycle time 6.4 μsec
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      2 CDC 1607 Magnetic Tape Systems (8 tapes) - 150 in./sec 200 bpi density, only - 2 channels each, one input, one output Character transfer rate 30 KC
    UNIT RECORD EQUIPMENT:
      IBM 088 Card Reader up to 1300 cpm
      IBM 523 Card Punch up to 100 cpm
      CDC 350 Paper Tape Reader up to 350 char/sec; 5, 7, or 8 channel
      Teletype BRPE II Paper Tape Punch up to 110 char/sec 7 or 8 channel
      CDC Monitor Typewriter 10 to 12 char/sec
      CDC 1612 Printer 120 column, 1000 or 667 ℓpm as selected
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
  FORTRAN, COBOL, ALGOL, CODAP
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Elizabeth M. Muller

MAILING ADDRESS: United Nuclear Corporation
Research & Engineering Center
Grasslands Road
Elmsford, New York 10523

TELEPHONE: 914-592-9000 X238

DATE: July 16, 1968

COOPERATING INSTALLATION FACILITIES REPORT

UNIVERSITY OF CALIFORNIA COMPUTER CENTER CALB

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    CDC 6400 (a)
(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    IBM 360/40 (b)
  MEMORY UNITS:
    CORE:
      65K 60-bit words CDC 6400
    DRUM AND DISK STORAGE:
      1 CDC 6638 Disk System CDC 6400
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      5 CDC 604 Magnetic Tape Transports, 7-track CDC 6400
      6 IBM 2400 Series Magnetic Tape Units IBM 360
    UNIT RECORD EQUIPMENT:
      50 IBM 026,029 Card Punches
      2 Teletypes
      3 IBM 514 Reproducers
      2 IBM 557 Alphabetic Interpreters
      2 IBM 083 Sorters
      1 IBM 082 Sorter
      1 IBM 087 Collator
      1 IBM 407 Computing Accounting Machine
      1 IBM 1402 Card Read Punch (b)
      1 CDC 405 Card Reader (a)
      1 CDC 415 Card Punch (a)
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
    SCOPE 3.1 Operating System on CDC 6400, OS/360 on IBM 360
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Harvey Amster

MAILING ADDRESS: University of California
Department of Nuclear Engineering
Berkeley, California 94720

TELEPHONE: 415-642-7275 DATE: March 18, 1968

COOPERATING INSTALLATION FACILITIES REPORT

UNIVERSITY OF CINCINNATI COMPUTER SERVICES DUCS

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
- IBM 360/40
- IBM 7040
- IBM 1410

(2) ASSOCIATED EQUIPMENT:

SATELLITE OR OFF-LINE PROCESSORS:
- IBM 1401
- Optical Scanning Corporation Digitek 100 Scanner

MEMORY UNITS:
- CORE:
- DRUM AND DISK STORAGE:
  - IBM 360/40 4 IBM 2311 Disk Storage Drive
  - IBM 1410 1 IBM 1311 Disk Storage Drive
- DATA CELL, RACE, OR OTHER MASS STORAGE:
  - IBM 360/40 1 IBM 2321 Data Cell Drive

PERIPHERAL UNITS:
- MAGNETIC TAPE UNITS:
  - IBM 360/40 5 IBM 2402 Magnetic Tape Units, 1 7-track, 4 9-track
  - IBM 7040 8 IBM 729-5 Magnetic Tape Units
  - IBM 1410 5 IBM 729-5 Magnetic Tape Units
- UNIT RECORD EQUIPMENT:
  - IBM 360/40 System
    - 1 IBM 2540 Card Read Punch
    - 1 IBM 1403 Printer
  - IBM 1410 System
    - 1 IBM 1403-N3 Printer
    - 1 IBM 1402 Card Read Punch

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:
- IBM 360/40 FORTRAN IV(G), COBOL, PL/I, OS/360 PCP & MFT
- IBM 7040 FORTRAN IV, COBOL, IBSYS
- IBM 1410 FORTRAN IV, COBOL, PR155

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Henry J. Miller

MAILING ADDRESS: University of Cincinnati
316 Physics Bldg.
Department of University Computer Services
Cincinnati, Ohio 45221

TELEPHONE: 513-475-2333 DATE: July 18, 1968

COOPERATING INSTALLATION FACILITIES REPORT

UNIVERSITY OF FLORIDA COMPUTER CENTER UFCC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 360/50
(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    IBM 1401 off-line processor
  INPUT/OUTPUT CHANNELS:
    2 Selector Channels
    1 Multiplexor Channel
  MEMORY UNITS:
    CORE:
      512K bytes, 2 μsec cycle time
    DRUM AND DISK STORAGE:
      5 IBM 2311 Disk Storage Drives
      1 IBM 2314 Direct Access Storage Facility
    DATA CELL, RACE, OR OTHER MASS STORAGE:
      IBM 2321 Data Cell to be installed
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      3 IBM 2400 Series Magnetic Tape Units, 2 9-track 800 bpi, 1 7-track 200, 556, or 800 bpi
    UNIT RECORD EQUIPMENT:
      IBM 1403 Printer 1100 ℓpm
      IBM Card Read Punch reads 1000 cpm; punches 250 cpm
      33 Consoles: 25 IBM 2741 Communication Terminals
        6 IBM 1050 Data Communication System
        2 Teletypewriters
  DISPLAY AND RECORDING EQUIPMENT:
    IBM 2260 Display Station
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
    OS/360 Version 14 Internally written OS also.
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: M. J. Ohanian

MAILING ADDRESS: University of Florida
Department of Nuclear Engineering Sciences
Room 202 Nuclear Sciences Building
Gainesville, Florida 32601

TELEPHONE: 904-376-3261 X2271 DATE: March 20, 1968

COOPERATING INSTALLATION FACILITIES REPORT

UNIVERSITY OF MISSOURI COMPUTER CENTER — UMCC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 7040
(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    IBM 1401 used to convert input to magnetic tape and IBM 7040 output tape to printer
  MEMORY UNITS:
    CORE:
      32K 36-bit words
    DRUM AND DISK STORAGE:
      IBM 1301 Disk Storage Drive; 27 million characters
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      8 IBM 729 Magnetic Tape Units, 556 bpi, 7-track
    UNIT RECORD EQUIPMENT:
      2 IBM 1402 Card Read Punch reads 800 cpm; punches 250 cpm
      1 IBM 1403 Printer 600 ℓpm
      1 IBM 407 Computing Accounting Machine
      1 IBM 514 Reproducing Punch
      1 IBM 557 Alphabetic Interpreter
      1 IBM 82 Sorter
      14 IBM 26 Card Punch
      2 IBM 56 Verifier
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
    FORTRAN, COBOL, WATFOR, IBSYS, LP III, IPL/5, LPSS3
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: E. L. Cox

MAILING ADDRESS: University of Missouri
Nuclear Reactor Facility
Columbia, Missouri 65201

TELEPHONE: 314-449-8001

DATE: July 22, 1968

COOPERATING INSTALLATION FACILITIES REPORT

UNIVERSITY OF NEW MEXICO UNM

COMPUTER FACILITIES:

- (1) MAIN PROCESSOR:
  - IBM 360/40H
- (2) ASSOCIATED EQUIPMENT:
  - MEMORY UNITS:
    - CORE:
      - 262K bytes
    - DRUM AND DISK STORAGE:
      - 5 IBM 2311 Disk Storage Drives
  - PERIPHERAL UNITS:
    - MAGNETIC TAPE UNITS:
      - 4 IBM 2403 - 800 bpi 9-track 60KB
      - 1 IBM 2402 - 200, 556, 800 bpi 7-track
    - UNIT RECORD EQUIPMENT:
      - 1 IBM 2540 Card Read Punch (reads 1000 cpm and punches 300 cpm)
      - 1 IBM 1403 Printer 1100 ℓpm
      - 1 IBM 2702 Transmission Control
      - 6 IBM 1050 Printer-Keyboard
      - 2 IBM 2848 Display Control
      - 16 IBM 2260 Display Station
- (3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
- (4) SOFTWARE:
  - OS/360 Release 14
  - RAX
- (5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Glenn A. Whan

MAILING ADDRESS: Department of Nuclear Engineering
University of New Mexico
Albuquerque, New Mexico 87106

TELEPHONE: 505-277-4105

DATE: October 18, 1968

COOPERATING INSTALLATION FACILITIES REPORT

THE UNIVERSITY OF TEXAS AT AUSTIN COMPUTATION CENTER UTEX

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    CDC 6600
    CDC 160
    IBM 1401
(2) ASSOCIATED EQUIPMENT:
  SATELLITE OR OFF-LINE PROCESSORS:
    CDC 3100, CDC 1700, CDC 8130, PDP 7, SDS 930
  INPUT/OUTPUT CHANNELS:
    8 Channels
  MEMORY UNITS:
    CORE:
      CDC 6600 131K 60-bit word
      CDC 160 4K 12-bit word
      IBM 1401 4K character
    DRUM AND DISK STORAGE:
      2 CDC 6608 Disk System 132 million character each
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      6 CDC 607 Magnetic Tape Transports 120 KC, 200, 556, or 800 bpi, 7-track
      2 CDC 164 Magnetic Tape Units 50 KC, 200 bpi, 7-track
      2 IBM 7330 Magnetic Tape Units 80 KC, 200 or 556 bpi, 7-track
    UNIT RECORD EQUIPMENT:
      2 CDC 405 Card Reader 1000 cpm
      2 CDC 501 Line Printer 1200 ℓpm
      1 IBM 1403 Line Printer 600 ℓpm
      1 IBM 1402 Card Read Punch 600 cpm
      2 CDC 6675 Data Set Controller 4 channels each at 40.8 KBPS
      1 CDC 6676 Data Set Controller 64 channels, 150 bps
      41 Teletypewriters
  DISPLAY AND RECORDING EQUIPMENT:
    CDC 252 Display Console with Light Pen
    CDC 254 Microfilm Recorder
    CDC 165 CALCOMP Plotter 11 in. plotter, .01 increments
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
    FORTRAN II, FORTRAN IV, ALGOL, LISP, SLIP, L-Z, SNOBOL, SYMBAL, COMPASS, ASCENT, PERT/COST, METEOR, COMIT

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: S. J. Gage

MAILING ADDRESS: The University of Texas at Austin
Nuclear Reactor Laboratory
Austin, Texas 78712

TELEPHONE: 512-471-5136

DATE: August 5, 1968

COOPERATING INSTALLATION FACILITIES REPORT

UNIVERSITY OF WASHINGTON COMPUTER CENTER UWCC

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
    IBM 7094/7040 Direct Couple System
(2) ASSOCIATED EQUIPMENT:
  INPUT/OUTPUT CHANNELS:
    3 Channels on IBM 7040
  MEMORY UNITS:
    CORE:
      IBM 7040 32,768 36-bit words, 8 μsec access time
      IBM 7094 32,768 36-bit words, 2 μsec access time
    DRUM AND DISK STORAGE:
      IBM 1301-2 Disk Storage Drive 9,320,000 36-bit words
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      14 IBM 729-4 Magnetic Tape Units 90 KC, 200, 556, or 800 bpi
    UNIT RECORD EQUIPMENT:
      2 IBM 1403-3 Printer 1100 ℓpm
      1 IBM 1402 Card Read Punch reads 800 cpm; punches 250 cpm
      10 IBM 1050 Data Communication Systems 14.5 cps
  DISPLAY AND RECORDING EQUIPMENT:
    CALCOMP Plotter
    Benson-Lehner Digitizer
    EAI 3500 Data Plotter
(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
(4) SOFTWARE:
    FORTRAN IV Version 13, IBSYS Version 13 (DCOS), FORTRAN II, COBOL, SNOBOL, MAP, FORMAC, PUFFT, BASIC, GPSS, LISP, FRAN, SIFT.
(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Prof. Albert L. Babb

MAILING ADDRESS: University of Washington
Nuclear Reactor Building
Seattle, Washington 98105

TELEPHONE: 206-543-4170

DATE: May 31, 1968

COOPERATING INSTALLATION FACILITIES REPORT

Section I of II

WESTINGHOUSE ASTRONUCLEAR LABORATORY WANL

COMPUTER FACILITIES:

- (1) MAIN PROCESSOR:
  - 2 CDC 6600
- (2) ASSOCIATED EQUIPMENT:
  - SATELLITE OR OFF-LINE PROCESSORS:
    - 6416 I/O Processor - 10 Peripheral & Control Processors each with 4096 12-bit words, 16K 60-bit words
  - INPUT/OUTPUT CHANNELS:
    - 14 Bi-directional Channels, 2 million cps transfer rate
  - MEMORY UNITS:
    - CORE:
      - (a) 6614 Central Processor 65K 60-bit words 1 μsec storage cycle time 10 peripheral processors each with 4096 12-bit word memory
      - (b) 6613 Central Processor 131K 60-bit words 1 μsec storage cycle time 10 peripheral processors each with 4096 12-bit word memory
    - DRUM AND DISK STORAGE:
      - 5 CDC 6603 Disk System, 75 million characters 267 ms average access time 1.2 million char/sec average transfer rate
      - 2 CDC 6638 Disk System, 167 million characters 50-140 ms average access time 1.68 million char/sec average transfer rate
  - PERIPHERAL UNITS:
    - MAGNETIC TAPE UNITS:
      - 16 CDC 607 Magnetic Tape Transports 150 in./sec; 200, 556 or 800 bpi
    - UNIT RECORD EQUIPMENT:
      - CDC 8231 Card Reader/Line Printer Terminal including
      - Bell 301B Data Set
      - CDC 8529B Data Set Controller
      - CDC 8081 Main Frame (8K)
      - CDC 161 Typewriter
      - CDC 405 Card Reader 1200 cpm
      - CDC 501 Line Printer 1000 ℓpm
      - CDC 415 Card Punch 250 cpm
  - DISPLAY AND RECORDING EQUIPMENT:
    - Stromberg-Carlson 4020 Plotter 10 frames/sec, prints 5000 ℓpm, 16 mm & 35 mm microfilm, $8\frac{1}{2}$ x 11 hard-copy camera
    - CALCOMP 556 Plotter, 200-300 increments/sec

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:

(4) SOFTWARE:

System - SCOPE 2.0
Language - FORTRAN IV

(5) INSTALLATION ENVIRONMENT REPORTS:

COOPERATING INSTALLATION FACILITIES REPORT

Section II of II

WESTINGHOUSE ASTRONUCLEAR LABORATORY WANL

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:
  IBM Attached Support Processor System ASP
  IBM 360/75 - IBM 360/50 Support Processor

(2) ASSOCIATED EQUIPMENT:
  INPUT/OUTPUT CHANNELS:
    IBM 360/50 2 Selector Channels & 1 Multiplexor Channel, transfer rate 900,000 bytes/sec on selector, 312,000 bytes/sec on multiplexor-burst mode
    IBM 360/75 3 Channels permits data transfer at 1.3 million bytes/sec per channel
  MEMORY UNITS:
    CORE:
      IBM 360/50 262K bytes with 2 μsec storage cycle for access to 4 bytes
      IBM 360/75 524K bytes with 0.75 μsec storage cycle for access to 8 bytes
    DRUM AND DISK STORAGE:
      IBM 2301 Drum Storage Unit 4.09 million bytes; 8.6 μsec access time; 1,300,000 bytes/sec transfer rate
      IBM 2314 Direct Access Storage Facility 8 modules each storing 29.17 mil. bytes; 75 ms access time; 312,000 bytes/sec transfer rate
  PERIPHERAL UNITS:
    MAGNETIC TAPE UNITS:
      2 IBM 2402-3 7/9 track 800 bpi 90KB max transfer rate
      4 IBM 2402-6 9-track 800/1600 bpi 180KB max transfer rate
    UNIT RECORD EQUIPMENT:
      IBM 360/30 C.P.U. (8K)
      Bell 301B Data Set
      IBM 2701 Data Adapter Unit
      IBM 1403-N1 Printer 1100 ℓpm
      IBM 2540 Card Read Punch reads 1000 cpm; punches 300 cpm
      IBM 1051 Control Unit
      IBM 1052 Printer-Keyboard
  DISPLAY AND RECORDING EQUIPMENT:
    See Section I

(3) OTHER INDEPENDENT OR SPECIAL-PURPOSE COMPUTER FACILITIES AVAILABLE AT THIS INSTALLATION:
   IBM 360/20

(4) SOFTWARE:
   IBM System/360 Operating System FORTRAN IV (H)
   IBM System/360 Operating System COBOL (H)

(5) INSTALLATION ENVIRONMENT REPORTS:

INSTALLATION REPRESENTATIVE: Dr. D. W. Drawbaugh

MAILING ADDRESS: Westinghouse Electric Corporation
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TELEPHONE: 412-892-5600 X6520 DATE: February 9, 1968

COOPERATING INSTALLATION FACILITIES REPORT

WESTINGHOUSE ATOMIC POWER DIVISIONS WAPD

COMPUTER FACILITIES:

(1) MAIN PROCESSOR:

The main processors (2 CDC 6600 and IBM 360/50/75 ASP Systems) and other facilities are the same as those utilized by Westinghouse Astronuclear Laboratory and described in that report, WANL.

INSTALLATION REPRESENTATIVE: G. H. Minton

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III. COMPUTERS IN USE

BURROUGHS CORPORATION

B5500
- Georgia Institute of Technology - GIT
- MPR Associates, Inc. - MPR

CONTROL DATA CORPORATION

G20
- Chalk River Nuclear Laboratories - CRNL

160A
- Lawrence Radiation Laboratory - LRL
- University of Texas at Austin Computation Center - UTEX

1604A
- Control Data Corporation - CDC
- Phillips Petroleum Company - PPCO
- United Nuclear Corporation Research and Engineering Center - UNC

1700
- Control Data Corporation - CDC

3100
- Chalk River Nuclear Laboratories - CRNL
- Phillips Petroleum Company - PPCO

3600
- Argonne National Laboratory - ANL
- Lawrence Radiation Laboratory - LRL
- Sandia Corporation - SC

6400
- Battelle Memorial Institute, Columbus Laboratory - BCL
- Control Data Corporation - CDC
- McDonnell Automation Center - MA
- University of California - CALB

6500
- Purdue University - PURD

6600
- Babcock & Wilcox Company, Nuclear Generation Department - BW
- Bettis Atomic Power Laboratory - BAPL
- Brookhaven National Laboratory - BNL
- Chalk River Nuclear Laboratories - CRNL

6600 (Contd.)
- Knolls Atomic Power Laboratory - KAPL
- Lawrence Radiation Laboratory - LRL
- Los Alamos Scientific Laboratory - LASL
- University of Texas at Austin Computation Center - UTEX
- Westinghouse Astronuclear Laboratory - WANL
- Westinghouse Atomic Power Division - WAPD

8090
- Boeing Huntsville Simulation Center - BHSC
- Chalk River Nuclear Laboratories - CRNL
- Sandia Corporation - SC

8130
- University of Texas at Austin Computation Center - UTEX

DIGITAL EQUIPMENT CORPORATION

PDP 1
- Lawrence Radiation Laboratory - LRL

PDP 6
- Lawrence Radiation Laboratory - LRL

PDP 7
- University of Texas at Austin Computation Center - UTEX

PDP 8
- Australian Atomic Energy Commission - AAEC

GENERAL ELECTRIC COMPANY

DATANET 30
- Bechtel Corporation - BC
- General Electric Nuclear Energy Division - NED

115
- General Electric Company, Nuclear Energy Division - NED
- General Electric Company, Nuclear Systems Programs - GEC

225
- Computer Sciences Corporation, Northwest Operations - CSCN

425
- Canadian General Electric - PTBO

635
- Bechtel Corporation - BC
- General Electric Company, Nuclear Energy Division - NED
- General Electric Company, Nuclear Systems Programs - GEC

INTERNATIONAL BUSINESS MACHINES

- 360
  - Model 20
    - Boeing Huntsville Simulation Center - BHSC
    - IBM Japan Ltd., Scientific Datacenter - SDC
    - Jet Propulsion Laboratory - JPL
    - The Pennsylvania State University - PSU
  - Model 30
    - Atomics International - AI
    - Black & Veatch Consulting Engineers B&V
    - Boeing Huntsville Simulation Center - BHSC
    - E. I. duPont, Savannah River Laboratory - DP
    - European Nuclear Energy Agency Computer Programme Library - ENEA
    - Lockheed Missiles & Space Company - LMSC
    - McDonnell Automation Center - MA
  - Model 40
    - American Electric Power Service Corporation - AEP
    - Massachusetts Institute of Technology - MIT
    - North Carolina State University - NCSU
    - S. A. Atomic Energy Board - AEB
    - University of Cincinnati Computer Services - DUCS
    - University of California Computer Center - CALB
    - University of New Mexico - UNM
  - Model 44
    - Boeing Huntsville Simulation Center - BHSC
    - Burns & Roe Computer Center - BRCC
    - Isotopes, Nuclear Systems Division - ISO
  - Model 50
    - Aerojet-General Corporation - AGC
    - American Electric Power Service Corporation - AEP
    - Headquarters, Atomic Energy Commission - AEC
    - Atomics International - AI
    - Australian Atomic Energy Commission - AAEC
    - Combustion Engineering Nuclear Division - CEND
    - Fort Worth Division of General Dynamics - CF
    - Kansas State University - KSUN
    - McDonnell Automation Center - MA
    - University of Florida Computer Center - UFCC
    - Westinghouse Astronuclear Laboratory - WANL

Model 65
  - Aerojet-General Corporation - AGC
  - Boeing Huntsville Simulation Center - BHSC
  - Combustion Engineering Nuclear Division - CEND
  - Drexel Institute of Technology Computing Center - DTCC
  - E. I. duPont, Savannah River Laboratory - DP
  - European Nuclear Energy Agency, Computer Programme Library - ENEA
  - Fort Worth Division of General Dynamics - CF
  - Massachusetts Institute of Technology - MIT
  - Southern Nuclear Engineering, Inc. - SNE
  - Texas A&M University - TAMU

Model 67
  - Boeing Huntsville Simulation Center - BHSC
  - NASA--Lewis Research Center - LER
  - The Pennsylvania State University - PSU

Model 75
  - Argonne National Laboratory - ANL
  - IBM Japan, Ltd., Scientific Datacenter - SDC
  - McDonnell Automation Center - MA
  - Westinghouse Astronuclear Laboratory - WANL

1130
- Aerojet-General Corporation - AGC
- Atomic Power Development Associates, Inc. - APDA
- Boeing Huntsville Simulation Center - BHSC
- North Carolina State University - NCSU
- Sargent & Lundy - S&L

1401
- Brookhaven National Laboratory - BNL
- E. I. duPont, Savannah River Laboratory - DP
- European Nuclear Energy Agency Computer Programme Library - ENEA
- Lawrence Radiation Laboratory - LRL
- Purdue University - PURD
- Southern Nuclear Engineering, Inc. - SNE
- University of Cincinnati Computer Services - DUCS
- University of Florida Computer Center - UFCC
- University of Missouri Computer Center - UMCC
- University of Texas at Austin Computation Center - UTEX

1410
- University of Cincinnati Computer Services - DUCS

7030
- Lawrence Radiation Laboratory - LRL
- Los Alamos Scientific Laboratory - LASL

7040
- University of Cincinnati Computer Services - DUCS
- University of Missouri Computer Center - UMCC

7044
- Phillips Petroleum Company - PPCO

7090
- Computer Sciences Corporation, Northwest Operations - CSCN
- European Nuclear Energy Agency - ENEA
- IBM Japan, Ltd., Scientific Datacenter - SDC
- Sandia Corporation - SC

7094
- Brookhaven National Laboratory - BNL
- General Electric Company, Nuclear Systems Programs - GEC
- Lawrence Radiation Laboratory - LRL
- Los Alamos Scientific Laboratory - LASL
- Purdue University - PURD
- Southern Nuclear Engineering, Inc. - SNE

7094/7040
- NASA--Lewis Research Center - LER
- University of Washington Computer Center - UWCC

7094/7044
- Jet Propulsion Laboratory - JPL
- NASA--Lewis Research Center - LER

PHILCO-FORD CORPORATION

211
- Babcock & Wilcox Company, Nuclear Generation Division - BW

REMINGTON RAND LARC

- Lawrence Radiation Laboratory - LRL

UNIVAC

1004
- Donald W. Douglas Laboratories - DWDL
- Gulf General Atomic, Inc. - GGA
- Lockheed Missiles & Space Company - LMSC

1005

Knolls Atomic Power Laboratory - KAPL

1108

Computer Sciences Corporation, Northwest Operations - CSCN
Donald W. Douglas Laboratory - DWDL
Georgia Institute of Technology - GIT
Gulf General Atomic Inc. - GGA
Lockheed Missiles & Space Company - LMSC
National Bureau of Standards - NBS
United Aircraft Research Laboratory - UARL

IV. INSTALLATION ABBREVIATIONS

AAEC - Australian Atomic Energy Commission
AEB - S. A. Atomic Energy Board
AEC - Headquarters, U.S. Atomic Energy Commission
AEP - American Electric Power Service Corporation
AGC - Aerojet-General Corporation
AI - Atomics International
ANL - Argonne National Laboratory
APDA - Atomic Power Development Associates, Inc.
BAPL - Bettis Atomic Power Laboratory
BC - Bechtel Corporation
BCL - Battelle Memorial Institute, Columbus Laboratories
BHSC - Boeing Huntsville Simulation Center
BNL - Brookhaven National Laboratory
BNW - Battelle Memorial Institute, Pacific Northwest Laboratory
BRCC - Burns & Roe Computer Center
B&V - Black & Veatch Consulting Engineers
BW - The Babcock and Wilcox Company, Nuclear Generation Department
CALB - University of California Computer Center
CDC - Control Data Corporation, Palo Alto, California
CEND - Combustion Engineering, Inc., Nuclear Division
CF - Fort Worth Division of General Dynamics
CRNL - Chalk River Nuclear Laboratories
CSCN - Computer Sciences Corporation, Northwest Operations
DP - E. I. duPont, Savannah River Laboratory
DUCS - University of Cincinnati Computer Services
DWDL - Donald W. Douglas Laboratory
GEC - General Electric Company, Nuclear Systems Programs
GGA - Gulf General Atomic, Inc.
GIT - Georgia Institute of Technology
JPL - Jet Propulsion Laboratory, California Institute of Technology

KAPL - Knolls Atomic Power Laboratory, General Electric Company
KSUN - Kansas State University
LASL - Los Alamos Scientific Laboratory
LER - NASA--Lewis Research Center
LMSC - Lockheed Missiles & Space Company
LRL - Lawrence Radiation Laboratory
MA - McDonnell Automation Center
MIT - Massachusetts Institute of Technology
MPR - MPR Associates, Inc.
NBS - National Bureau of Standards
NCSU - North Carolina State University
NED - General Electric Company, Nuclear Energy Division
NRTS - General Electric Company, Nuclear Reactor Testing Station
NTC - Nuclear Technology Corporation
NUS - Nuclear Utility Services, Inc.
PPCO - Phillips Petroleum Company
PSU - The Pennsylvania State University
PTBO - Canadian General Electric Company
PURD - Purdue University
SC - Sandia Corporation
SCD - IBM Japan, Ltd., Scientific Datacenter
S&L - Sargent & Lundy Engineers
SNE - Southern Nuclear Engineering, Inc.
TAMU - Texas A&M University
UFCC - University of Florida Computer Center
UMCC - University of Missouri Computer Center
UNC - United Nuclear Corporation
UNM - University of New Mexico
UTEX - University of Texas at Austin Computation Center
UWCC - University of Washington Computer Center
WANL - Westinghouse Astronuclear Laboratory
WAPD - Westinghouse Atomic Power Division

X